CHNOLOGY DEPT.

NEW EQUIPMENT DIGEST

A Penton Publication

August, 1953

Volume 18—Number 8

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Use Inquiry Slips Pages 4 and 100

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

LIQUID LEVEL GAGE
improved for severe usage

Improvements made in 3190 series Criterion magnetic gages for indicating liquid level in LP gas or anhydrous ammonia storage tanks include stainless head plates, interchangeable snap-on dial chambers, adjustable tubular steel support members, strengthened float rods, extruded aluminum gear yokes, shrouded gears and corrosionproof steel floats. Tested for leaks before assembly, floats withstand 600 to 900 psi. Rapid and accurate response of dial pointer is insured by Alnico II magnets in both internal mechanism and dial chamber. Made by **Rochester Mfg. Co.,** 114 Rockwood St., Rochester 10, N. Y.

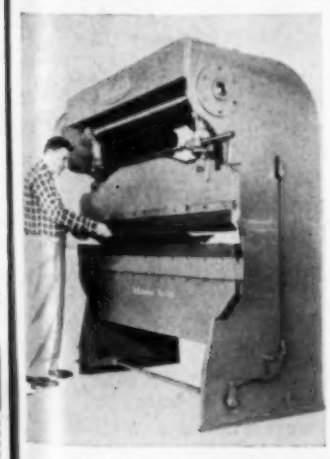
▲ For more details circle **NED-1 H3** on enclosed inquiry slip ▲

ELECTRIC HAMMERS
now give 3000 impacts per minute

Design improvements incorporated in the Super Slugger electric hammer include Neoprene blocks which give added force to the 3000 blows a minute which the hammer is capable of delivering. Piston travel has been increased from 5/8 to 1 1/8-in. without shock or vibration on motor or operator. A slide shoe made of moly disulfide and oil reservoir have also been added for longer continuous performance. Six more holding chucks and a greater number of tools are also available. The hammer weighs 7½ lb, and is easily operated with one hand on ladders or scaffolds. Distributed by **Tempo Products Co.,** 2077 E. 65th St., Cleveland 3, O.

▲ For more details circle **NED-2 H3** on enclosed inquiry slip ▲

POWER PRESS BRAKES
made in 6 and 8-ft models



Features of 6 and 8-ft sheet metal forming power press brakes include precision adjustment of ram, ball bearing mounted balanced cast steel flywheel, adjustable variable speed drive, 1½-hp motor, adjustable foot treadle and die holder as standard equipment. Machine is 79 in. high, 44 in. deep and has ram and bed plates of 72 and 96 in., respectively. Die area of 12 in. shut height is provided with a 3-in. stroke and 4½-in. adjustment of stroke. Hand wheel sets strokes from 16 to 40 per minute. Made by **Service Machine Co.,** 202 Miller St., Elizabeth 4, N. J.

▲ For more details circle **NED-3 H3** on enclosed inquiry slip ▲

"TURN OFF LIGHTS" DECAL
serves as reminder to employees

Electric lighting costs can be reduced with this "Don't Waste Lights" decal for application on walls adjacent to light switches and other likely spots. It serves as an employee reminder on the subject. Measuring 1 x 2½ in., it is printed in brilliant yellow with bold black letters. Made by **Meyercord Co.,** Dept. NE8, 5323 W. Lake St., Chicago 44, Ill.

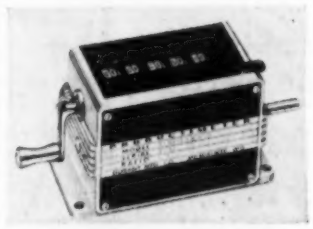
▲ For more details circle **NED-4 H3** on enclosed inquiry slip ▲

WELDING GOGGLES
feature "defrost" principle

Oxweld No. 24 Coverall welding goggles that will not steam up or fog, even in hot damp weather, depend upon a steady stream of air to prevent moisture condensation. Sixteen vents behind the lens retaining rings provide a continuous circulation of fresh air across the inside surface of the lenses. Goggles fit comfortably over any spectacle frame and are adjustable for broad or narrow features. Frame is flame-resistant, high impact strength Nylon and is equipped with standard AA type lenses. Made by **Linde Air Products Co.,** Room 308-NED, 30 E. 42nd St., New York 17, N. Y.

▲ For more details circle **NED-5 H3** on enclosed inquiry slip ▲

SMALL PREDETERMINED COUNTER
turn of crank resets figures to zero



Crank reset incorporated in line of SP small predetermined Productimeter counters adapt them for wide range of counting applications were fast resetting to zero is essential. Both rotary and stroke models are available and are fully enclosed. Top-reading figures are easily legible. Switch in unit is not reset for next run until all number wheels are turned to zero. Made by **Durant Mfg. Co.,** 1922 N. Buffum St., Milwaukee 1, Wis.

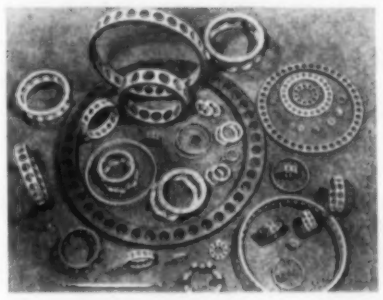
▲ For more details circle **NED-6 H3** on enclosed inquiry slip ▲

SAFETY SAW
carbide tipped, will not kick back

This carbide tipped safety saw will not grab work, and consequently will not kickback at operator. It minimizes cause of most accidents, since it will not grab and pull in a hand that accidentally touches it. Saw reportedly has low initial cost and operating cost, and in some applications it cuts smoothly enough to make additional finishing operations unnecessary. Made by **W. F. Meyers Co.,** Dept. NED-19, Bedford, Ind.

▲ For more details circle **NED-7 H3** on enclosed inquiry slip ▲

BALL BEARING RETAINERS
made of laminated plastic



Speeds in excess of 100,000 rpm can be attained by precision ball bearings equipped with thermosetting laminated plastic bearing retainers. Machined to critical tolerances required for precision and super-precision bearings, the retainers are made in many types and sizes. They can be fabricated from either tubing or sheet stock and can range in size from 0.143 to 33 in. OD. Axial and thrust bearing retainers and roller bearing cages can be made. Advantages include low starting torque and wear, reduced bearing weight and elimination of galling. Retainers made by **Synthane Corp.,** N. E. River Rd., Oaks, Pa.

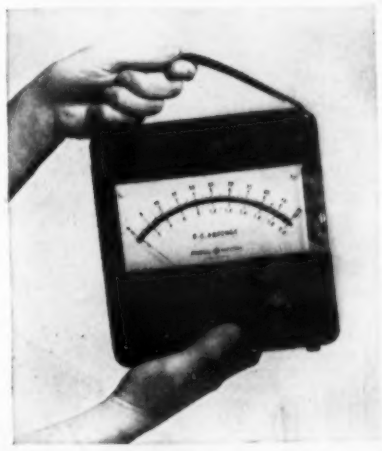
▲ For more details circle **NED-8 H3** on enclosed inquiry slip ▲

STORAGE RACK FITTINGS
are used with standard pipe

Storage racks made of Amidon fittings and standard pipe can be assembled in a short time for any material or weight in a wide range of sizes and capacities. Racks can be completely disassembled and fittings stored in a small space when no longer needed, or dimensions can be altered as space demands and as storage needs change. Same fittings and pipe can be used to erect adjustable scaffolds for plant maintenance. Made by **Amidon Engineering Co.,** 38-369 Cleveland Rd., Elyria 20, O.

▲ For more details circle **NED-9 H3** on enclosed inquiry slip ▲

INDICATING INSTRUMENTS
give volts, watts and amperes



Designed for general and high precision work respectively, types DP-11 and DP-12 portable electric indicating instruments are available to indicate volts, watts, amperes and milliamperes. Model DP-11 combines sturdiness with accuracy to within 0.5 per cent of full scale, and is useful for field service and maintenance applications. Model DP-12 is accurate within 0.25 per cent of full scale for applications where precision is of importance. Internal mechanisms are protected by antimagnetic shielding, and units are identical in appearance and general features. Made by **General Electric Co.,** Schenectady 5, N. Y.

▲ For more details circle **NED-10 H3** on enclosed inquiry slip ▲

WHETHER IT'S ORIGINAL EQUIPMENT DESIGN OR CHANGING OVER TO AIR, YOU MAY SAVE ENORMOUSLY BY STANDARDIZING ON . . .

VALVAIRS

Thanks to Diversatility

★ ★ ★

ESPECIALLY ADAPTED TO TOOLING AND FIXTURE DESIGN

★ ★ ★

3-way, knob-operated air control valve.

• Valvair Diversatility is an exclusive, original form of standardization. Five basic bodies permit incorporating any one (or two) control assemblies with a standard valve body. Unique Valvair advantages enable us to speed your order at no extra cost. . . Sizes: ¼" through 1". May we fill your orders *now?*

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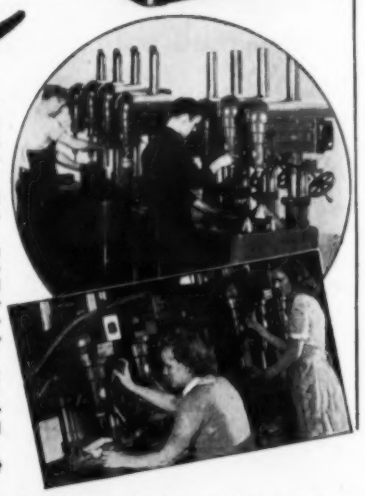
REPRESENTATIVES IN PRINCIPAL CITIES

Rely Upon **Valvair** 2-WAY 3-WAY 4-WAY

▲ For more details circle **NED-11 H3** on enclosed inquiry slip ▲

The **ONLY** 15" DRILL PRESSES WITH 5/8" CAPACITY

BOICE-CRANE
LOW PRICED
HEAVY DUTY HELMET HEAD
SERIES 2600



50% thicker column (3/16" walls). Guaranteed greater rigidity and closer tolerances for precision at the chuck, where it counts.

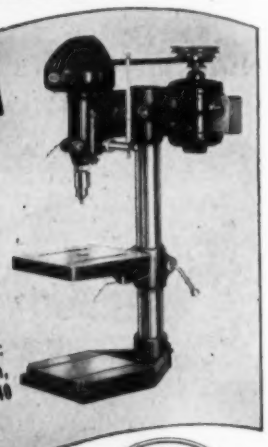
Up to 50% more bearing against side thrust on the longer, and 20% larger, quill (2 1/16" dia.) when deep hole drilling and routing. 4" or more of the quill is always supported. An inexpensive attachment permits fine hollow chisel mortising.

Rugged steel (not die cast) 6-tooth (involute shaped) splined drive sleeve. Far more sensitive powerful quill feed.

Quick-acting hinged belt guard.

50 High and Slow Speed Bench and Floor Models 1-2-3-4 Spindles
5 speeds—25% greater range. Easy speed changing. Various options on work tables. Heads and parts sold separately for special setups. Full line of tapping heads, foot feeds and accessories.

CHALLENGER SERIES DRILL PRESSES



• Exclusive two-way drive aligner-belt tensioner. Perfect alignment and tension instantly released for speed changing without wrenches or tools. 6-tooth splined drive. Every splined-drive part made of steel for quiet running and longer life. Four heavy grease-sealed ball bearings. Massive head and positive, easy, quick acting non-mar quill and column locks. Popular priced. 5 speeds in two ranges: 500, 925, 1750, 3250 and 5500 in the high, and 425, 775, 1330, 2200 and 3340 in the low.

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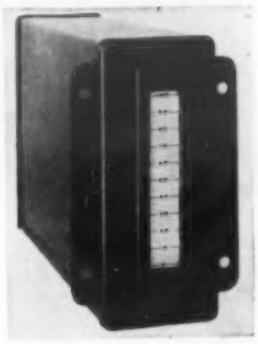
PANEL INDICATOR
ribbon gives continuous indication



Especially suited to panel applications which require continuous indication of valve position or such variables as liquid levels, this model 50 Consotrol indicator is ribbon type indicating receiver. It receives pneumatic measurements from a transmitter located at the process and causes movement of colored Nylon tape behind glass pane which has imprinted scale graduations. Internal illumination is not required. All parts are mounted on a removable chassis for ease of servicing. Zero, range and damping adjustments are accessible. Instrument is available with single or dual indicating scales and can be adjusted for direct or reverse response to measurement. Alarm contacts provide for use of warning signals if required. Made by **Foxboro Co.,** 26 Neponset Ave., Foxboro, Mass.

▲ For more details circle **NED-13 H3** on enclosed inquiry slip ▲

WARDROBE RACKS
large capacity collapsible type

Twin hanger bars on two collapsible wardrobe racks serve to double their capacity. The 3-ft model has a capacity of 48 coats and hats, while the 4-ft unit holds 64 coats and hats on slightly over 4 sq ft of floor space. Coat hangers can be substituted for hooks with some loss of capacity, or a combination of both can be used. Double Checkerette racks can be "knocked down" for storage or transporting. Ten units can be stored in 18 sq ft and can be set up in 1 minute each without tools. Casters permit moving when loaded. Made by **Vogel-Peterson Co.,** Dept. P-8, 1127 W. 37th St., Chicago 9, Ill.

▲ For more details circle **NED-14 H3** on enclosed inquiry slip ▲

DO YOU KNOW? Fresnel lenses, commonly used in lighthouses, are finding widespread application to all types of industrial and commercial magnifying jobs. Because these low-cost lightweight lenses can now be made with precision refracting facets of optical grade glass, they are adaptable to inspection, lighting, diffusing and display purposes. Frenelens is tradename of these magnifiers which are made by Bolsey Corp. of America, 118 E. 25th St., New York 10, N. Y.

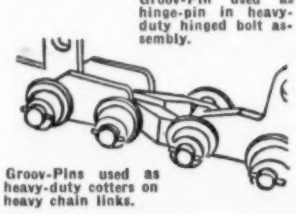
▲ For more details circle **NED-15 H3** on enclosed inquiry slip ▲

NO BETTER PRESS FIT FASTENER has ever been devised than the original GROOV-PIN

The Groov-Pin is primarily a cylindrical pin cut from bar or coil stock. Longitudinal grooves are rolled or pressed into the body to deform the stock within controlled standard limits.

Two of many types of Groov-Pins.

Groov-Pin used as hinge-pin in heavy-duty hinged bolt assembly.



Groov-Pins used as heavy-duty cotters on heavy chain links.

When the Groov-Pin is forced into a drilled hole of correct diameter, the constraining action of the hole wall causes the displaced material to flow back and make a locking fit within its elastic range. Resiliency of the pin stock makes it practicable to use the same pin repeatedly.

The Groov-Pin is simple in design, efficient, economical both in price and in cost of application, and it is versatile in its uses. This combination of advantages has never been surpassed by any other pin fastening. It is true even though Groov-Pins have been in use for over a quarter century, essentially in their present form from the beginning. Like the common pin or nail the original design of the Groov-Pin was fundamentally perfect. Therefore, improvement has been impossible. Groov-Pins are assembled in straight drilled holes. No tapping, reaming, peening or milling are required. They can be driven by hand hammer, air cylinder or hydraulic press.

GROOV-PIN TRADE MARK REG. U.S. PAT. OFF.

Send for further information.

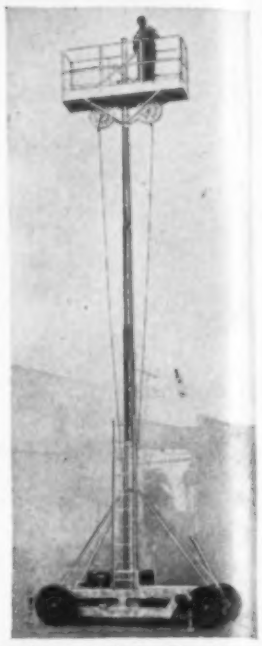
Also manufacturers of TapLok Inserts.

GROOV-PIN CORPORATION
1126 Hendricks Causeway, Ridgefield, N. J.

▲ For more details circle **NED-16 H3** on enclosed inquiry slip ▲

HANDLE THOSE* HIGH UP *JOBS

EASIER! FASTER! and at LESS COST!



STEP UP to those overhead construction, maintenance, servicing and material handling jobs with an H-K HYDRAULIC LIFT.

8-ft. platform raises 6000-lb. load to 37' 8" (65' on special order) . . . Self-Powered . . . Jack post (removable) raises roofs, trusses, beams, etc. any height to 42'. Full control — UP, STOP or DOWN — from both platform and base. Tows anywhere on its standard tread trailer.

POWERFUL, VERSATILE, SAFE . . . there's an H-K Hydraulic Lift for every stacking or lifting need. Let us know your requirements.

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20 YEARS OF HYDRAULIC LIFT KNOW-HOW
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28 N. MARENGO AVE., PASADENA 1, CALIF.

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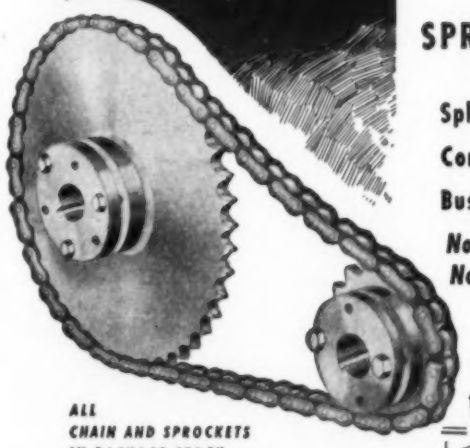
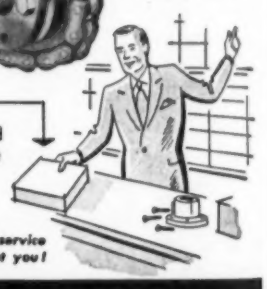
BROWNING
Roller Chain Drives



SPROCKETS with
Split Taper
Compression
Bushings
No Reboring
No Welding

Write for Catalog CD101.

ALL CHAIN AND SPROCKETS IN PACKAGE STOCK



NOW! you have the same simplified **BUSHING** system for Single and Multiple Groove Sheaves — Rigid and Flexible Couplings — Paper Pulleys and **ROLLER CHAIN SPROCKETS.**

Only your Browning Distributor offers this service . . . write for the name of the one nearest you!

BROWNING MANUFACTURING COMPANY MAYSVILLE, KENTUCKY, U.S.A.

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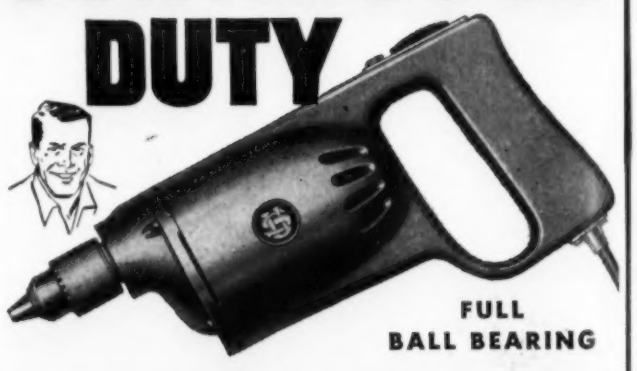
CONTINUOUS DUTY



FULL BALL BEARING

This ¼" drill — $28.00*

MODEL 14AU • Jacobs 3-jaw chuck with key • Rugged aluminum alloy frame • 100% ball bearing • Heat treated alloy steel gears • Capacity in steel ¼", in hardwood ½" • Cool operating under constant use. Write today for name of Distributor and catalog No. US6.

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EMERSON ELECTRIC

United States Electrical Tool Division
THE EMERSON ELECTRIC MFG. CO.
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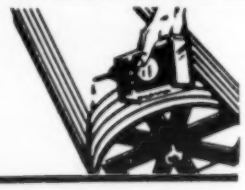
Preventive MAINTENANCE



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BELTRACTION
THE *Liquid* BELT TREATMENT

CERTIFIED BY LEADING INDEPENDENT LABORATORIES AND MORE THAN 110,000 users.

Slipping belts not only slow up production but also cause chattering and misalignment of work, wearing out machines long before their time. BELTRACTION by preventing belt slippage protects against costly delays and breakdowns. Use it regularly — every time you lubricate bearings—and keep equipment operating at top efficiency. Write for the new interesting folder "Horse Power Where and When You Need It" which gives results of tests by independent laboratories.

Also Prolongs Belt Life
BELTRACTION weatherproofs, oilproofs and waterproofs all kinds of belts—works foreign substances off of belts and keeps them clean — minimizes belt replacements.

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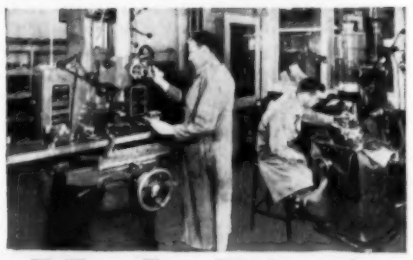
FOR ALL TYPES OF BELTS • V-TYPE, FLAT OR ROUND

For more details circle **NED-21 H3** on enclosed inquiry slip

Custom-Made Skill



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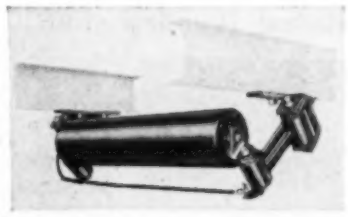
For more details circle **NED-22 H3** on enclosed inquiry slip

TIME DELAY SWITCH
mechanically or manually operated

Operated by a lever, the Agaswitch has an adjustable delay from 0.1 second to more than 5 minutes. This delay is obtained by restricting air flow through an adjustable orifice in the timing head. The timing chamber is enclosed and dustproof, the air used for timing being recirculated inside it. Unit is available in both single-pole double-break and double-pole single-break types for resistance loads of approximately 15 amp at 115 v and 60 cycles. It measures 2½ in. square and 3-in. high. Made by **Elastic Stop Nut Corp. of America,** AGA Div., 1020 Newark Ave., Elizabeth 3, N. J.

For more details circle **NED-23 H3** on enclosed inquiry slip

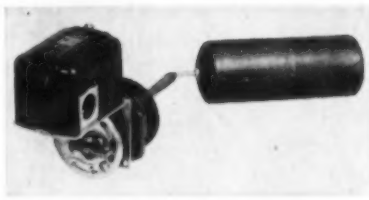
BELT IDLER ROLLER
aligns return run without side guides



Assuring positive alignment for the return run of conveyor belting, style 41 roller-bearing belt training return idler roll reduces danger of belt damage. It is mounted on a toggle arm system and tilts automatically to counter incipient belt wander. It operates in one direction only, and is equally effective on horizontal, inclined or declined conveyors. Roll shaft has fittings for greasing from one side of the conveyor. Steel rolls are available in standard 5 or 6-in. diameters, and in 5½-in. rubber covered spiral roll. Made by **Chain Belt Co.,** Dept. PR, Milwaukee 1, Wis.

For more details circle **NED-24 H3** on enclosed inquiry slip

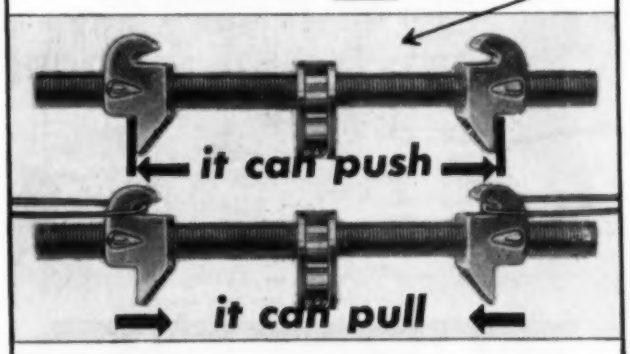
TANK FLOAT SWITCH
provides for automatic level control



Fully water and rustproof and easily adjusted without removal, class 9037 type HG screw-in tank switch provides automatic control of liquid level within closed tanks. Float position can be changed from right to left hand side, and contacts can be converted to open or close on liquid rise. Switch will operate at pressures to 50 psi. Double-pole double-break silver-to-silver contact switches are available for 110-220 v or 440-550 v and are of positive snap-action toggle type. Made by **Square D Co.,** 4045 N. Richards St., Milwaukee 12, Wis.

For more details circle **NED-25 H3** on enclosed inquiry slip

This handy tool can pay for itself on one job!



It's a combination screw jack with ratchet lever socket. An ideal tool for pulling together or pushing apart steel plates, beams, pipe, tightening conveyors, straightening equipment. Precision made in 3 models—10 and 15-ton capacities; weighs 46, 50, and 97 lbs.; in length 24, 28, and 38 inches. For complete information, including prices and delivery, ask your local distributor or write the world's oldest and largest manufacturer of lifting jacks for bulletin AD-9 N, The Duff-Norton Manufacturing Co., P.O. Box 1889, Pittsburgh 30, Pa. Canadian plant—Toronto 6, Ontario.

DUFF-NORTON JACKS
"Giving Industry a Lift Since 1883"

For more details circle **NED-26 H3** on enclosed inquiry slip

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Thermo-Grip® for Soldering that's **STRONGER FASTER CHEAPER**

Get production-line speed on solder joints that are perfect every time. No preheating, no cold-flow joints, no remakes . . . Thermo-Grip's resistance heating puts instant heat right where you need it for best solder adhesion. Can't damage nearby joints or parts. Many capacities and "Plier," "Pencil," "Fork" attachments to cut costs on all types of jobs.

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1032 Park Ave., Sycamore, Ill.
Please arrange FREE Thermo-Grip demonstration and send catalog data.
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Form No. 8208

Huck Lockbolts* combine the advantages of both bolts and rivets in one superior fastener that is lighter than a bolt and costs less installed. Lockbolts draw the work tightly together, then are permanently and rigidly locked in place like a rivet in one quick automatic operation. There are no lock washers, cotter pins, special nuts or lengthy bolts to consume workers' time or add unnecessary weight to the installation. It will pay you to specify Huck Lockbolts where time, labor and weight are important.

**Manufactured under U.S. patents, other patents pending.*

Huck MANUFACTURING COMPANY
2480 BELLEVUE AVENUE
DETROIT 7, MICHIGAN

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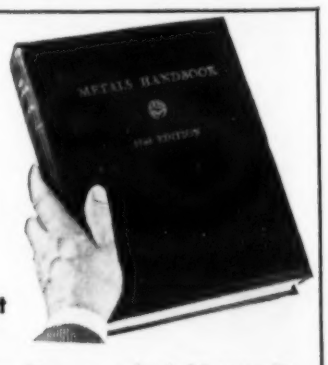
The
Metals Handbook



1332 Large pages
1752 Illustrations
1057 Tables
803 Separate articles
1,620,000 Words of text
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Here is a book without a competitor . . . a book 25 years in the making. The current, 7th edition of the Metals Handbook was compiled and written by 68 committees of the American Society for Metals; more than 500 metals engineers were hand picked by the Society as the top experts, the men best qualified to write the most authoritative possible reference book on metals, metal properties, fabrication and uses. The book they wrote is the Metals Handbook. It is divided into 37 principal sections, and contains 803 separate articles and data sheets on metals, metal shaping, forming, heat treating, welding, machining, foundry work, cleaning, finishing, testing, inspection, control and research techniques. All metals, all processes are included. The 64-page index and 4-page section on how to use the book make it easy for any reader to find what he wants. Over 40,000 copies of this edition are now in use by engineers, metallurgists, designers, production men, executives, purchasing agents and others. Order your copy today by returning the coupon below. The price is $15.00.

American Society for Metals, Room 302
7309 Euclid Ave., Cleveland 3, Ohio
Rush me a copy of the Metals Handbook.
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Company ____
Address ____
City ____ Zone ____ State ____
☐ $15.00 Enclosed ☐ Bill me.

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Free HANDBOOK

Shows how the cost of many products has been *reduced* by replacing castings, forgings, stampings, tubing and sheet steel components with less expensive welded-wire and wire-and-strip assemblies. Also contains technical data—charts, tables, drawings, etc.—plus information on various types of production procedures, etc. Write for your copy to:
E. H. Titchener & Co.
101 Clinton St., Binghamton, N. Y.

For more details circle **NED-30 H3** on enclosed inquiry slip

Electric Eel cleans sewers and drains with SAFETY

New DOUBLE CABLE protects operator. *Speedy, more efficient.* Flexible Outer Sheath for Safety

Most Powerful Machine of Its Type

- *Full Electric Reverse for Rapid Withdrawal*
- *Increased Speed Through Greater R.P.M.*
- *Lighter Due to New Aluminum Frame*
- *Rotating Inner Cables*
- *Lines 1¼" to 8" Diameter*
- *Runs up to 200 Ft.*
- *Cleaning tools available for any work—each designed for a specific job.*

NEW! The Electric Eel is now made in a gasoline engine powered model designed for use where electricity is not available.

Write for more information. Dept. NED

OHIO TOOL & ENGINEERING CO., Springfield, Ohio

For more details circle **NED-31 H3** on enclosed inquiry slip

CHROMALOX Electric TUBULAR HEATERS

FIT THE HEAT TO YOUR WORK

Chromalox Electric Tubular Heaters are available in straight lengths or they may be curved and formed to fit your exact specifications. They provide accurately controlled, economical and dependable convection, conduction or radiant heat. Use them for dies, molds, platens; as immersion heaters in liquids, soft metal and molten salts; or in ovens, air ducts and other air heating applications. Consult Chromalox now for all your production heating needs.

For Full Details Write for Catalog 50. It lists Chromalox Tubular Heater sizes, types and ratings; sheath materials, fittings and special shapes.

Industrial Div., EDWIN L. WIEGAND CO. 7509 Thomas Blvd., Pittsburgh 8, Pa.

See other ad on pg. 79

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

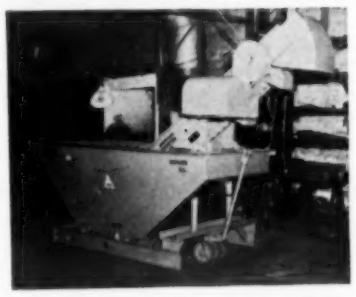
For more details circle **NED-32 H3** on enclosed inquiry slip

CONTAINER MARKER prints labels directly on carton

This hand printer and die-cut stencil combination prints shipping or product information in the form of a facsimile label directly on the container. Kustom-Kut stencils are pre-cut to print the label or form, and variable information required is filled in by typewriter or stylus. Stencil is then attached to model JC-3 hand printer and will address or mark up to 40 containers a minute. Soft printing pad makes legible impressions on flat, cylindrical or rough surfaces. It holds enough ink for 1000 impressions and will print a label measuring 4¾ x 2⅝-in. Made by **Weber Addressing Machine Co.,** Label & Marking Systems Div., 202 W. Central Rd., Mt. Prospect, Ill.

For more details circle **NED-33 H3** on enclosed inquiry slip

SLAG DISPOSAL UNIT handles granulated foundry slag

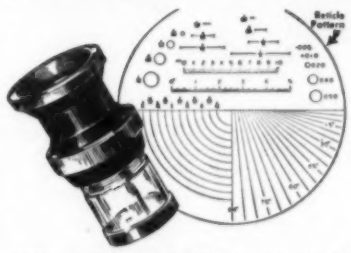


Developed specifically to convey and discharge foundry slag into a cart or wheelbarrow, this portable Slag-Disposal eliminates need for pits and foundations. It is capable of handling 5 to 25 tons of slag per hour directly from the quenching tank. Being fully portable, it can be moved readily. Made by **American Conveyor Co.,** 1113 W. Adams St., Chicago 7, Ill.

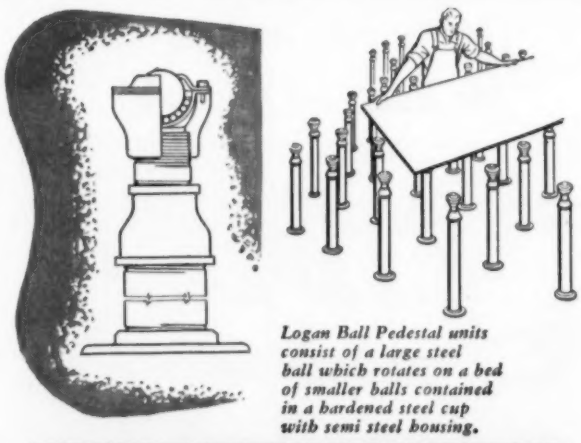
For more details circle **NED-34 H3** on enclosed inquiry slip

POCKET COMPARATOR gives six power magnification

For measurement and inspection of small parts and dimensions, Edscorp pocket comparator gives six power magnification. Its reticle is calibrated to measure angles, radii, circles and linear dimensions in both decimal inches and millimeters. Typical uses of the instrument, which is about 1½ x 2-in. in size, include checking layouts and machining on tools, dies, gages, threads, chamfers and small holes. It is also useful for determining spectograph line widths and for inspecting for flaws in optical work. Made by **Edmund Scientific Corp.,** Dept. 180, Barrington, N. J.



For more details circle **NED-35 H3** on enclosed inquiry slip

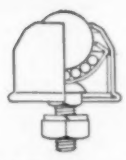


Logan Ball Pedestal units consist of a large steel ball which rotates on a bed of smaller balls contained in a hardened steel cup with semi steel housing.

BALL PEDESTAL

Logan Ball Pedestals are particularly adapted to handling sheets or plates around shears and punch presses or other machines. The ball units permit turning or moving the plates in any direction and the pedestal construction provides a means of conveying without blocking the working area.

Logan offers Ball Pedestal units in several different sizes. Further information on request.



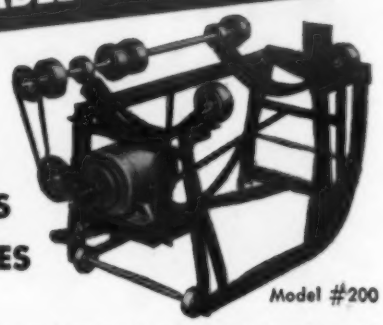
Ball Transfer units also available for table mounting.

Logan Conveyors

LOGAN CO., 215 CABEL ST., LOUISVILLE, KY.

For more details circle **NED-36 H3** on enclosed inquiry slip

MORSE PORTABLE ROTATOR



- **MIXES**
- **CLEANS**
- **TUMBLES**

Model #200

A retractable caster frame offers simpler handling of containers with the Morse Rotator. Two Neoprene Drive Wheels prevent creeping. Four drive wheels give positive driving action and two idler wheels with Torrington Needle Bearings make the Morse Rotator a smoothly operating unit. Tipping lever included with each Rotator. Write for free folder showing complete Morse line.

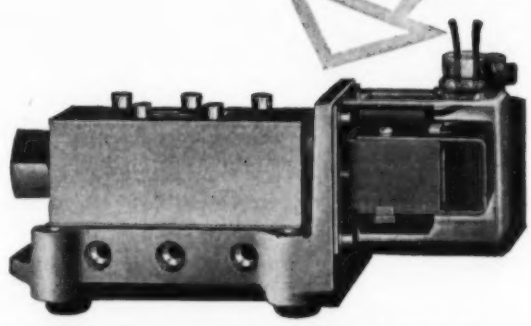
Complete with motor and drive—Wt. 155 lbs. $275.00

MORSE MANUFACTURING CO., INC.
756 West Manlius St. East Syracuse, N. Y.

For more details circle **NED-37 H3** on enclosed inquiry slip

Quick-As-Wink AIR AND HYDRAULIC Control Valves

FEATURE THIS MONTH

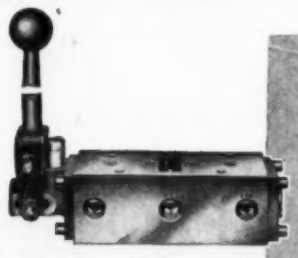


⅛" and ¼" Single Solenoid Valves

They'll give you up to 300 cycles a minute
For air to 125 psi—vacuum—
or low pressure hydraulic service

● These valves combine the utmost simplicity in design with rugged construction. They will give you millions of cycles of highly satisfactory, efficient, trouble-free service. Small solenoid, with short stroke operates the valve plunger, eliminating levers, links and pins. Low amperage requirement eliminates intermediate relays and simplifies electrical control circuits. Side or bottom pipe connections. Valve body and solenoid are both mounted on an aluminum base and can be removed independently without disturbing the piping. 2, 3, 4 and 5-way actions. *Write for full details today!*

also the following

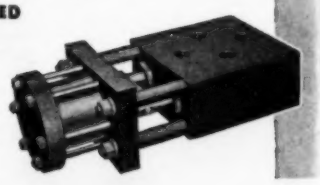


LEVER OPERATED SINGLE PLUNGER VALVES

Two position and three position valves, ⅜" to 1½" sizes; 2-way, 3-way and 4-way actions. Widely used for controlling the operation of single and double acting cylinders or as pilots for operating other valves.

PILOT CYLINDER OPERATED HYDRAULIC VALVES

Two position valves, ½" to 4" sizes, for line pressures from 1000 to 5000 psi. Valve is placed close to the work and operated from a central control point with an easy to handle air valve avoiding operator fatigue.



For Fully Descriptive Data Sheets Write

C. B. HUNT & SON, Inc.

Hand, Foot, Lever, Cam, Pilot, Diaphragm and Solenoid Control Valves

2021 EAST PERSHING STREET • SALEM, OHIO

For more details circle **NED-38 H3** on enclosed inquiry slip

WHEN R-B Punches Are Used

What are your piercing or forming requirements—standard or unusual shapes—small or large holes—steel or special alloys—thin or thick metals? There is either an R-B punch in standard shapes and sizes or R-B will manufacture special punches, die buttons and retainers to your specifications that will provide more efficient piercing operations.

Many hole-making applications, formerly requiring drilling or some other costly means, can now be done with R-B interchangeable punches. If you have thought your piercing jobs too tough for interchangeable punches, it will pay you to investigate the wide application potential of R-B standardized equipment.

R-B Engineering Service Is Available for Your Tough Piercing Problems.

RICHARD BROTHERS PUNCH DIVISION
ALLIED PRODUCTS CORPORATION
DEPT. 73 • 12629 BURT ROAD • DETROIT 23, MICHIGAN

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SPECIAL COLD FORGED PARTS • STANDARD CAP SCREWS
PRECISION GROUND PARTS • SHEET METAL DIES MADE OF FERROUS ALLOYS, ZINC ALLOYS OR PLASTICS

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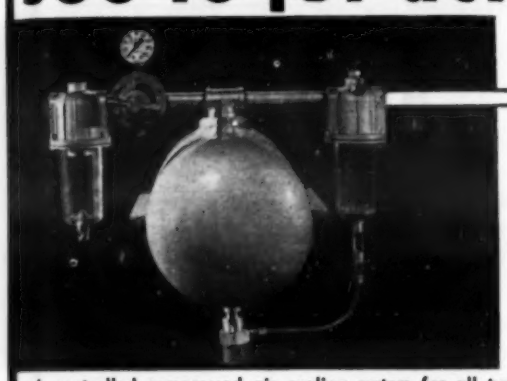
see lo-jet acro!



A controlled compressed air cooling system for all types of metal cutting with special ACRO-COOLANT soluble solution that

KEEPS CUTTING TOOLS AND WORK COOL

- speeds production
- cuts costs
- used for all machinery operations
- keeps work clean
- cuts tool breakage loss
- prolongs tool life

one unit can service 8 operations

Our engineering staff will cooperate FREE of charge. Send blueprints for estimate.

Write now for more information at no obligation to you!

AIR CONVERSION RESEARCH CORPORATION
4107 North Damen Ave., Dept. NE, Chicago 18, Illinois

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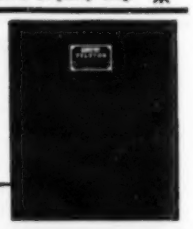
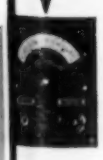
Fielden telstor





ELECTRONIC CONTINUOUS LEVEL INDICATOR

- *Accurate to ±2%*
- *Records Readings at Distances of Over a Mile*
- *No Moving Parts, Only One Radio Tube*
- *Low First Cost—Low Operating Cost*

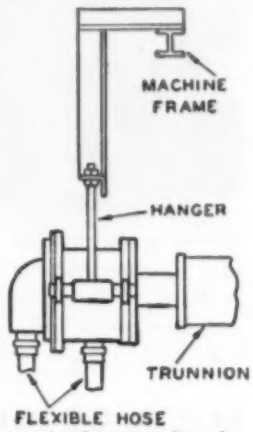
The Fielden TELSTOR Electronic Level Indicator measures the levels of powders or granular solids, liquids, viscous fluids, or interface . . . almost any type of conducting and non-conducting material that flows . . . accurately and continuously. Operates on a change of capacity. No pneumatic or hydraulic piping to clog or corrode, no floats to stick or leak Gives dependable measurement over full length of electrode. Operates on materials subjected to pressure or vacuum. Available with dust-tight, weatherproof cast aluminum housing. Easily installed and serviced. Electrodes suitable to a variety of applications. Write for detailed information to Dept. F.

Fielden
INSTRUMENT DIVISION
ROBERTSHAW-FULTON CONTROLS COMPANY
2920 N. 4th St., Philadelphia 33, Pa.
Dollar for Dollar—Your Best Instrument Value

▲ For more details circle NED-41 H3 on enclosed inquiry slip ▲

ROTARY PRESSURE JOINTS
available in all standard joint sizes

For introducing steam or liquids under pressure into rotating machine components, type L rotary pressure joints are now available in all standard joint sizes. Special floating mounting arrangement isolates weight of joint and its steam and condensate connections from seals, at the same time giving full lateral flexibility. By use of adjustable hangers, joint can also be attached in suspension from any machine frame, as shown in the illustration. Units are available for use with stationary or rotating syphon pipes. Made by **Johnson Corp.**, 812 Wood St., Three Rivers, Mich.



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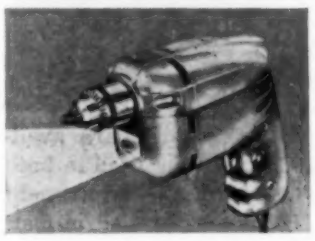
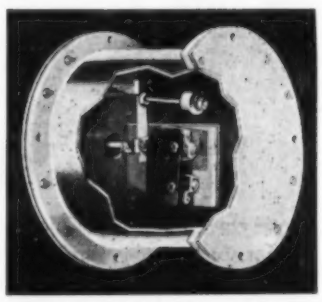
PORTABLE ELECTRIC DRILL
features built-in work light



Drilling in dark or hard-to-reach areas is made easier by this Work-Lite ¼-in. standard portable electric drill which features built-in spot light. Drill weighs 3 lb and is equipped with Jacobs geared chuck, Cutler-Hammer trigger lock type switch, aluminum die cast housing and ball thrust and armature spindle ball bearings. It has no-load speed of 2100 rpm and full-load speed of 1000 rpm. Universal type motor is rated at 2.0 amp. Made by **Fairchild Industries**, 110-N Main St., Burlington, Vt.

▲ For more details circle NED-43 H3 on enclosed inquiry slip ▲

BIN LEVEL INDICATOR
small unit for limited space



Hoppers, bins and chute are possible applications for the Bantam Bin-Dicator bin level indicator, a small size unit for use where installation space is too limited for standard models. Overall diameter is 5¾ in. and housing is designed for mounting on outside of thin-walled bins, inside thick-walled or multiple compartment bins or suspended within bins. The 4-in. flexible diaphragm is ample for requirements of small bins. Made by **Bin-Dicator Co.**, 100-13946 Kercheval Ave., Detroit 15, Mich.

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no. 1 BUY for handling INDUSTRIAL LIQUIDS!

QUALITY TOKHEIM DOUBLE-ACTION HAND PUMPS

Here's why a Tokheim is better!

- ***More efficient!*** Even at low temperatures—double-action—no wasted motion.
- ***More useful!*** Handles many liquids of most any viscosity including oil and water.
- ***Safer!*** Eliminates many dangers common to other methods of transfer.
- ***Trouble-free!*** Not affected by ice, dirt, etc.—easily serviced.

Tokheim is tops with many manufacturers. And for good reasons! Rugged diaphragm construction. Low original cost. Dependable service-free performance. Delivers up to 20 gallons per minute. Offered with optional parts for handling a wide range of liquids. Available with hose or spout outlets for drum, skid tank or underground installations. Call your dealer or your Tokheim representative.

Write factory for literature

General Products Division
TOKHEIM OIL TANK AND PUMP CO.
Designers and Builders of Superior Equipment Since 1901
1656 WABASH AVE., FORT WAYNE 1, IND.
Factory Branch: 1309 Howard Street, San Francisco 3, Calif.

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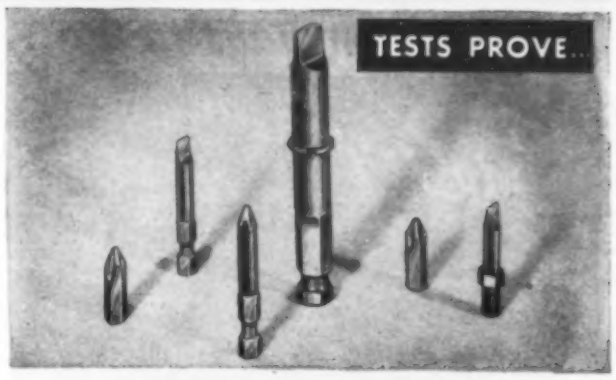

HOMMEL ALL METAL BITS DRIVE MORE SCREWS!

Close tolerance machining of finest, toughest shock-and-abrasion resistant tool steel is the reason—the reason Hommel All Metal power screwdriver bits outperform, outlast all others! Tests by major aircraft and automotive manufacturers actually *prove* Hommel bits last longer, cut production costs. All types and sizes are now in the Hommel line—hex drive, threaded or "Stubbies" for slotted, Phillips or Frearson (Reed and Prince) screws. Write for new catalog.

HOMMEL ALL METAL BITS

"Quite a Bit—Lasts Quite a Bit Longer"

All Metal Bit Company, 727 Penn Avenue, Pittsburgh 21, Pa.

▲ For more details circle NED-46 H3 on enclosed inquiry slip ▲

The instrument man's "Man Friday"

You'll never run out of uses for this high-fidelity Foxboro Portable Potentiometer. Use it to check overall accuracy of your temperature instruments and thermocouples; as a substitute temperature instrument during emergencies; for exploring temperatures not requiring continuous measurement.

Accurate to ¼ of 1% of scale. Extra-long (17") scale for close, accurate reading and *vernier dial* for precise balancing. Weighs only 12½ lbs. Rugged metal case-and-cover. Write for details. **The Foxboro Company, 668 Neponset Ave., Foxboro, Mass., U.S.A.**

FOXBORO REG. U. S. PAT. OFF. PORTABLE POTENTIOMETERS

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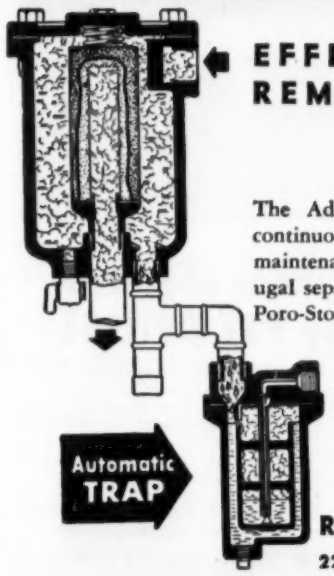
Poro-Stone Filtration FOR COMPRESSED AIR



EFFICIENTLY REMOVES:

OIL, WATER PIPE SCALE

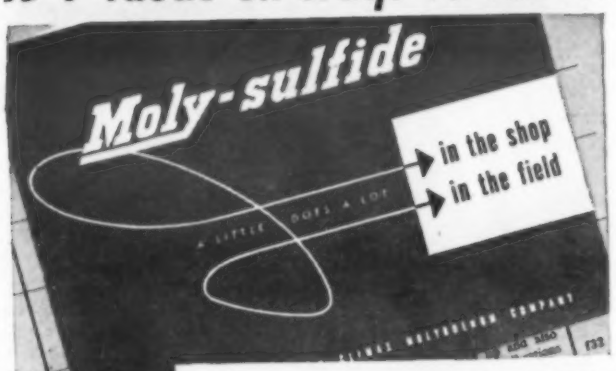
The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 176.

R. P. ADAMS CO., INC.
227 E. Park Dr., Buffalo 17, N. Y.

ADAMS *Poro-Stone* AIR FILTER

▲ For more details circle NED-48 H3 on enclosed inquiry slip ▲

154 ideas on ways to use...



154 varied applications of molybdenum sulfide in the shop and in the field are described in a new booklet now available. This solid-film lubricant has demonstrated unique anti-friction properties under conditions of extreme pressure, high velocity, elevated temperature, or chemical attack.

The 40-page booklet contains the records of solved lubrication problems—some might solve your own.

Moly-sulfide
A LITTLE DOES A LOT

The lubricant for extreme conditions

MS-6A

Climax Molybdenum Company
500 Fifth Avenue, New York City 36, N.Y.

For more details circle NED-50 H3 on enclosed inquiry slip

TRUCK ELEVATING TAIL GATE
hydraulic unit is counterbalanced

Hydraulically elevated and counterbalanced, this truck tail gate attachment is available in four capacities between 1000 and 2000 lb, and in platform sizes of 28 x 84, 28 x 90, 34 x 84 and 34 x 90 in. It is powered by an electric motor driven pump taking power from the vehicle battery, and its operation is unaffected by unbalanced loads. A diamond-type floor plate is used. Made by **Standard Designers Inc.**, P. O. Box 6218, Asheville, N. C.

For more details circle NED-53 H3 on enclosed inquiry slip

SAFETY GOGGLE
worn over prescription glasses

Kover-Mor safety goggle can be worn over prescription glasses, providing a comfortable fit with ample clearance. Chipping style with clear heat treated glass lenses and a welding goggle with choice of filter lens shades are available. Standard 50-mm round lenses are used in both models. Rigid metal top bar provides an adjustment to individual user's face. Headband is also adjustable. Ventilation is through slots in lens retaining rings and screens in eye cups. Made by **Willson Products, Inc.**, 207 Thorn St., Reading, Pa.

For more details circle NED-54 H3 on enclosed inquiry slip

PORTABLE CONVEYOR
with electric or gasoline drive

Made in 18 and 21-ft lengths, model 520 portable conveyor has collapsible landing gear which lowers it to horizontal position for towing, if desired. Offered with either air-cooled gasoline engine or electric motor drive, conveyor has removable loading hopper and optional adjustable screen chute with dust return pan. Raising or lowering is controlled with hand winch. Mounted on rubber tired wheels, machine will handle up to 1 ton per minute of bulk materials such as coal. Cleated 10-in. wide oilproof belt is used. Made by **Wall Mfg. Co.**, Dept. NED, Stratford Rd., Winston-Salem, N. C.

For more details circle NED-55 H3 on enclosed inquiry slip

SHOCK ABSORBERS
FOR ELECTRICAL ASSEMBLIES

THOMPSON shock absorbers feature angular as well as vertical movement to permit maximum vibration absorption. Threaded for ease of installation, these spring-loaded units provide shockproof mounting for lighting fixtures, meters, fans, unit heaters, motors, instrument panels, process controls, etc.

THOMPSON shock absorbers have only four component parts: malleable cast iron bell-shaped body, open spring plate, stem and powerful steel spring. All parts are treated for corrosion resistance.

Light and heavy-duty models are available in varying load capacities to a maximum of 80 pounds.

For complete data, write today for Catalog No. 58

THE THOMPSON ELECTRIC CO.
1138 POWER AVENUE • CLEVELAND 14, OHIO

For more details circle NED-51 H3 on enclosed inquiry slip

You get ALL these features when you buy PET DRILLS!

If you want the best, take an extra look at the PET Superduty Drill above! Here's a continuous-duty drill—built to *work* right and *handle* right. And, the price is right, too! All features shown are *standard* in PET Superduty Drills—at a *standard drill price!* Complete line of 54 ¼", ⅜" and ½" models gives you wide selection—in pistol or saw-type grip. Use coupon below to get complete facts!

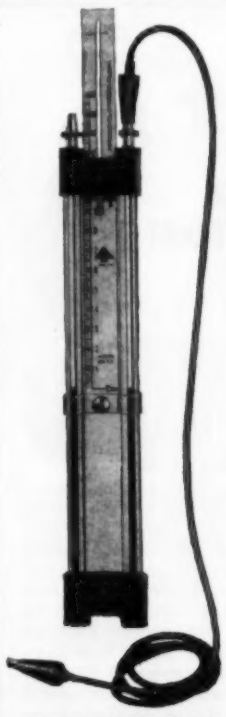
PORTABLE ELECTRIC TOOLS, INC., 320 W. 83rd St., Dept. ND-83, Chicago
In Canada: Portable Electric Tools, Ltd., 452 Birchmount Rd., Toronto

MAIL COUPON FOR FREE BULLETIN

Please send me free PET Superduty Catalog and name of nearest distributor.

Name _____ Title _____
Company _____
Address _____
City _____ State _____

For more details circle NED-52 H3 on enclosed inquiry slip



Gauge supplied with 4 ft. rubber hose and fitting for test connection.

Gauge with scale 0-7" W. $12.40

Gauge with reversible scale — 0-15" W on one side, and 0-8.5 ounces per sq. in. on other side. $15.80

BACHARACH *Manometer*

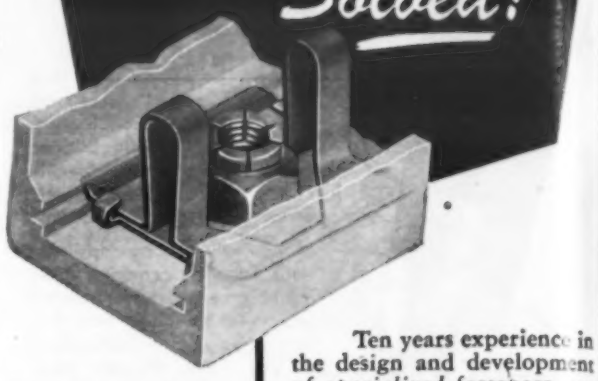
- Body is transparent, high-strength plastic extrusion.
- Scale features easy readability; made of white plastic, with black scale divisions and numerals; 1/10" W scale divisions.
- Indicating Fluid of 1.9 specific gravity permits pressure readings to 1/10" W over entire scale on gauge of convenient size. Fluid is colored blue for visibility; is non-freezing to low temperature. Gauge is furnished filled ready for use.
- Shut-off Valves are conveniently opened or closed by rotation of knurled discs.
- Scale is adjustable up or down to permit direct reading of pressure.
- Blow-over seal automatically prevents spilling of fluid when gauge is subjected to pressure surges in excess of scale range.
- Body serves as reel for rubber hose.
- For convenient attachment of gauge to pipe an adjustable mounting clamp is available as optional accessory.

Write for Leaflet 830

BACHARACH INDUSTRIAL INSTRUMENT COMPANY
7301 Penn Avenue, Pittsburgh 8, Pa.

For more details circle NED-56 H3 on enclosed inquiry slip

FASTENING PROBLEMS *Solved!*



This floating anchor nut solved a costly problem. Formerly, 3 separate parts made installation difficult and costly; removal was impossible. Our design, easily installed and easily removed cut costs sharply.

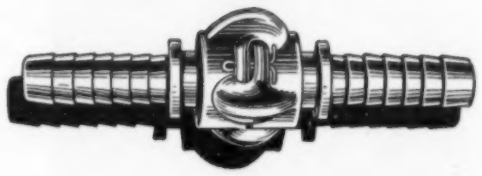
Ten years experience in the design and development of *specialized* fasteners, enables us to help you. Consultation on your problem, especially in the *design* stage, will result in a cheaper, more efficient fastener for your product. *Write today.*

RESEARCH DIVISION
Nutt-Shel
811 AIRWAY
GLENDALE 1, CALIF.
Dept. NED

Manufacturers of
SELF-LOCKING ANCHOR NUT
BOLT AND NUT RETAINERS

For more details circle NED-57 H3 on enclosed inquiry slip

"AIR KING"



QUICK-ACTING, UNIVERSAL TYPE

HOSE COUPLING

A strong, durable coupling for quick, tight connections on field or factory air hose. Plain design—no parts to get out of order or clogged with dirt. Made in hose ends and male and female threaded pipe ends. Completely interchangeable. Patented safety locking device is proof against vibration and rough handling. Malleable iron (rust-proofed) or bronze.

From Your Hose Supplier or Industrial Distributor

DIXON VALVE & COUPLING CO.
PRODUCERS OF *The Quality Line* COUPLINGS • NIPPLES • MENDERS • CLAMPS
"BOSS" "GJ-BOSS" "DIXON" "KING" "AIR KING" "DIX-LOCK"
PHILADELPHIA, PA. BRANCHES: CHICAGO • BIRMINGHAM • LOS ANGELES • HOUSTON

For more details circle NED-58 H3 on enclosed inquiry slip

NEW NYB&P CONVEYOR BELT HAS BUILT-IN RIP STOPPERS

"RESISTORIP" construction ejects sharp, partly-embedded objects that ruin belts

How often have you had to junk an almost new conveyor belt...ripped to shreds by razor-sharp particles which embed themselves in the belt, then jam and slit long sections?

NYB&P's new "RESISTORIP" belt is designed to end this useless loss. At close intervals throughout its length, transverse groups of high-tensile steel wires are built into the belt's carcass. When a sharp, partly-embedded object starts to rip this belt, it quickly encounters one of these wire groups. Immediately it is ejected...and damage to the belt is confined to a very short section, only inches in length!

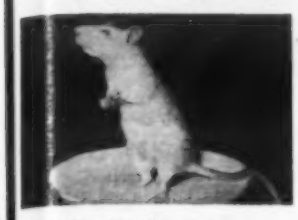
SEE YOUR NYB&P DISTRIBUTOR

NYB&P NEW YORK BELTING & PACKING CO. 1 Market St., Passaic, N.J.
America's Oldest Manufacturer of Industrial Rubber Products

For more details circle NED-59 H3 on enclosed inquiry slip

FORMULA 602 VS. CARBON TETRACHLORIDE

(report by independent test laboratory)



FORMULA 602
Ten healthy adult albino rats inhaled 125 parts FORMULA 602 per million parts air in an inhalation box for 30 minutes. This was repeated daily for 14 days. At the end of this time ABSOLUTELY NO ILL EFFECTS OR DEATHS OCCURRED!

CARBON TETRACHLORIDE
After 30 minutes exposure to 125 parts carbon tet per million parts air in an inhalation box, seven out of ten rats died. The following day, the remaining 3 rats died after another 30 minutes exposure. CARBON TET KILLED ALL THE RATS!

FORMULA 602 CLEANS MOTORS AND ALL ELECTRICAL EQUIPMENT

FORMULA 602 cleans without leaving a residue, corroding metals or damaging electric insulation. Use it wherever carbon tet is used for cleaning!

SEND FOR FULL INFORMATION TODAY

the PENETONE co.

BOX ND-853 TENAFLY, NEW JERSEY

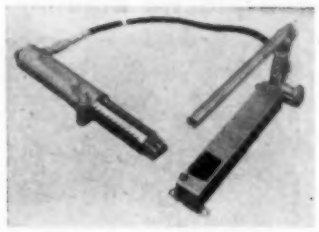
▲ For more details circle **NED-60 H3** on enclosed inquiry slip ▲

ELECTRIC COUNTER
double unit counts to 999 and 99,999

An upper set of figures that records counts up to 999 and a lower set for recording up to 99,999 are incorporated in this Ohmer electric counter. Total registered by the upper set can be returned to zero at any time, while the lower set continues to record a grand total. A bell rings at each count. Solenoid operated unit can be actuated by foot treadle, pushbutton or electric eye. Upper and lower numerals are 7/8 and 9/16-in. high, respectively. Made by **Rockwell Mfg. Co.**, Dept. NED, 400 N. Lexington Ave., Pittsburgh 8, Pa.

▲ For more details circle **NED-63 H3** on enclosed inquiry slip ▲

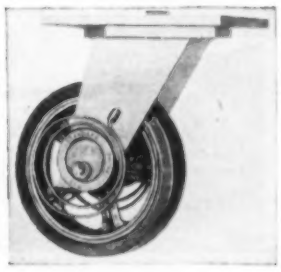
HYDRAULIC RAM
has built-in safety latch



With a 10-ton capacity and 7 in. of travel, the Hydro Latch remote control hydraulic ram has a built-in safety latch. Complete unit consists of ramp, pump and hose, and will operate in temperature range from —65 to 160° F with proper oils. Latch is spring-loaded and self-engaging as load is lifted, providing a positive stop in case of hydraulic failure or for holding the load. Ram and cylinder have clevises for mounting. Made by **Wm. S. Pine**, 1637-A E. 22nd St., Los Angeles 11, Calif.

▲ For more details circle **NED-64 H3** on enclosed inquiry slip ▲

SPRING TYPE CASTER
absorbs shock and protects loads



Designed for use on materials handling trailers and dollies and manufacturing and assembly line equipment, this Swinging Hub Caster has dual springs which eliminate bounce and shock transmission. It is available in both rigid and swivel types, with caster wheels from 8 to 16-in. diameter. It can be furnished with pneumatic tires if required, and is effective whether the load is large or small and whether it is moved at high or low speeds. Clock-type steel springs will support loads up to maximum tire ratings. Casters are fitted with Timken taper roller bearings and bronze graphite flange bearing. Made by **Standard Mfg. Co.**, Caster Div., Mt. Airy, N. C.

▲ For more details circle **NED-65 H3** on enclosed inquiry slip ▲

WEBB TOWVEYOR*

for FASTER, EASIER and SAFER MATERIALS HANDLING

FASTER—Towveyor chain automatically picks up load when pin attached to truck is dropped into slot. Material is delivered to destination without wasted traveling time.

EASIER—Minimum handling of loads by personnel—trucks engage Towveyor chain or are disengaged at any point with a simple lowering or raising of towing pin.

SAFER—Clear floors with no obstacles for employees to walk or truck over, and there are no overhead chains or supports to present safety hazards.

Cut your handling costs with a "Towveyor" system that will speed up distribution, permit faster filling of orders and easier loading or unloading of freight cars and trucks.

**TOWVEYOR is a registered trademark identifying floor truck conveyors manufactured and installed by the Jervis B. Webb Company.*

For Further Information, Please Write To:

JERVIS B. WEBB COMPANY

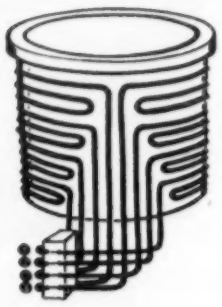
8921 ALPINE AVE. DETROIT 4, MICH.

OFFICES IN PRINCIPAL CITIES

CONVEYOR ENGINEERS AND MANUFACTURERS

▲ For more details circle **NED-67 H3** on enclosed inquiry slip ▲

Here's why the STA-WARM METHOD Melts Compounds so Efficiently



Many feet of closely spaced, specially wound resistance wire blanket sidewalls and bottom of each Sta-Warm melting tank or pot. Result? Uniform, low-wattage heat. Heat is applied in multiple circuits as required. Control devices include pyrometers or thermostats with magnetic contractors.

You specify the "ideal" temperature for melting the particular compound your plant uses. Sta-Warm will provide the tank to do the job efficiently and economically.

It's the basic design in the Sta-Warm method that makes this offer so valuable to you.

Send your current compound, resin or soft metal melting problem to Sta-Warm today. *No obligation.*

If you can tie a string around it, Sta-Warm can heat it for you.

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO

▲ For more details circle **NED-61 H3** on enclosed inquiry slip ▲

DEVIL'S PUTTY
FOR CLEANER CASTINGS

DEVIL'S PUTTY . . . a new graphite impregnated plastic refractory for: steel and gray iron ladle linings; making up spouts and runners; linings for ferrous and nonferrous metal melting furnaces and similar applications.

DEVIL'S PUTTY reduces refractory inclusions, thus producing cleaner castings; withstands severe thermal shock without "sluffing off"; contains chemically treated graphite that will not burn out of the mix, which adds surface lubrication and permits cleaner and faster pours. Molten metal has no sticking tendency to DEVIL'S PUTTY lining, so, slag rises quickly to top for easy skimming.

Write for useful literature . . . and the name of your nearest Botfield Distributor

BOTFIELD REFRACTORIES CO.
792 S. Swanson St., Philadelphia 47, Pa.
In Canada
Canadian Botfield Refractories Co., Ltd., 171 Eastern Ave., Toronto

▲ For more details circle **NED-62 H3** on enclosed inquiry slip ▲

FREE DATA ON MODERN THERMOSTATS

New reliability, flexibility and sensitivity in multi-purpose units

Learn about a thermostat that is sensitive *on the outside*. One where the shell itself activates the electrical contacts for the control of temperature, humidity, vapor level, radiant heat and other variables where temperature is a factor. The Fenwal THERMOSWITCH® control has a single-metal shell which expands or contracts *instantly* with temperature changes. Its efficiency is high, cost low. Fenwal THERMOSWITCH controls are now being used throughout industry to control temperature of gases, solids or liquids.

It costs you nothing to have the complete data on file. Also, Fenwal engineers are glad to cooperate with your engineering staff on special or new temperature control projects. **Write for Catalog 400, Fenwal Incorporated, 88 Pleasant St., Ashland, Massachusetts.**

Fenwal THERMOSWITCH®
Electric Temperature Control and Detection Devices
SENSITIVE...*but only to heat*

▲ For more details circle **NED-66 H3** on enclosed inquiry slip ▲

Let Us Prove 33⅓% SAVINGS IN FINISHING COSTS

WITH

SPEE-FLO

PRESSUREMATIC

Circaflo

HOT-SPRAY HEATERS

A SUPERIOR FINISH AT REDUCED COST!
•
SPEEDS APPLICATION
•
IMPROVED BUILD AND HOLDOUT!
•
ALL-WEATHER QUALITY CONTROL!

AVAILABLE FOR FIXED OR MOBILE APPLICATION

Mr. R. A. Childers, President of Childers Mfg. Co. of Houston, Texas, a leading metal awning manufacturer, reports average savings of 33 1/3% in labor and material with SPEE-FLO hot spray heaters in use. Mr. Weatherall praises SPEE-FLO for improved quality control, reduction of rejects, absolutely no maintenance costs, and a speed-up in the production line.

Wherever you use a spray gun, SPEE-FLO will increase efficiency . . . save money . . . provide a better finish! Write for FREE booklet, "WHY HOT SPRAY?". Ask for full information on SPEE-FLO PRESSUREMATIC HOT SPRAY HEATERS.

PRICED FROM $79.50 to $319.50

THE SPEE-FLO CO.

Builders of practical industrial and automotive hot-spray equipment
Dept. NED—720 POLK AVE.—HOUSTON, TEXAS

Please send me information on your line of hot spray heaters best suited to our work. (Type of products being finished) .....
Application is conveyorized ..... turntable ..... mobile ..... other (check one). Average volume of material per gun per hour ..... Please have representative call .....

Name .....
Company .....
Address .....
City ..... State .....

▲ For more details circle **NED-68 H3** on enclosed inquiry slip ▲

be fresh stay fresh

wear COVER'S FOG-PROOF GOGGLES

FAMOUS "Nod & Shake" Type

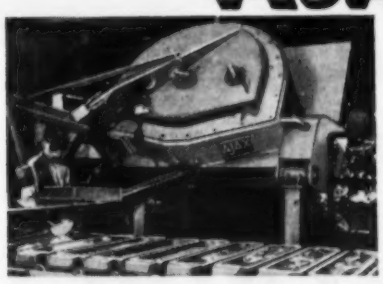
Used by thousands, for years, to protect eyes against paint spray, gases, dusts, fumes, smoke. Can be worn with any make respirator. Frames are of soft, pliable rubber that give air-tight fit on any shape face. A few drops of water placed in patented groove keeps fog from forming on inside of single lenses. An easy nod and shake of the head keeps lenses clear indefinitely.

Sample sent $2.00 pp

H. S. COVER, South Bend, Ind.

For more details circle NED-69 H3 on enclosed inquiry slip

Increase Your Profits— get the highest possible recovery of aluminum scrap with the help of AJAX TAMA-WYATT Induction Furnaces



AJAX induction furnaces are used in many plants for the efficient recovery of loose scrap, such as foil, chips, borings, turnings and the like. They are also adaptable for the full range of non-ferrous metals and alloys with the same advantages obtained in aluminum, and are built in sizes ranging from 20 kW to 1400 kW.

AJAX line frequency induction furnaces will melt aluminum foil scrap with the lowest obtainable melting losses. Photo shows an AJAX 166 kW melting furnace installed at the plant of the Toyo Aluminum Works in Yao, near Osaka, Japan. Unbaled foil scrap shown at right edge of photo is remelted at the rate of about 900 pounds per hour with a recovery of over 99%. Molten metal is poured into ingot molds as shown in the front of the photo.

Send for Reprint of Article on Scrap Recovery by Induction Furnaces.

AJAX ENGINEERING CORP., TRENTON 7, N. J.

AJAX TAMA-WYATT INDUCTION MELTING FURNACE

AJAX ELECTRO METALLURGICAL CORP., and Associated Companies
AJAX ELECTROTHERMIC CORP.
AJAX ELECTRIC CO., INC.
AJAX ELECTRIC FURNACE CORP.

For more details circle NED-70 H3 on enclosed inquiry slip

with PLASTIC ROCK!

Trowel a smooth, tough, malleable surfacing right over your old concrete or wood floor.

Plastic Rock comes complete, packed in barrels; nothing more to buy; no "formula" to confuse. Simply mix and trowel over old floor; adheres to concrete, wood, steel; average depth ½"; perfect feather edge; hundreds of tons rolling on steel wheels only improve it. Spark-proof, skid-safe wet or dry; dustless, noiseless; cannot splinter, crumble, curl or loosen. Used by largest industries and railroads.

ASK FOR REPORT 220-N-8.

UNITED LABORATORIES, INC., 16804 Euclid Ave., Cleveland 12, Ohio

TESTED-APPROVED ULI UNITED LABORATORIES INC.

PRODUCTS AND PROCESSES for PROTECTING PROPERTY

Field Representatives All Over The World

For more details circle NED-71 H3 on enclosed inquiry slip

CHECK SIGNER also protects and dates in one step

Protectograph Disburser is a three-in-one machine that protects, signs and dates checks in a single operation. After checks are inserted, a light touch on the keyboard and trip completes the check except for payee name. Machine protects check amount by shredding the figures indelibly into the fibers of the paper. It also produces a protected facsimile signature through a multicolored ribbon and imprints the date through the same ribbon. Machine can be operated only after two keys have been used on its double locks, thus providing control by two offices or people. A non-resettable meter counts and records each signature. Made by **Todd Co.**, P. O. Box 910, Rochester 3, N. Y.

For more details circle NED-72 H3 on enclosed inquiry slip

LOOSE-SHEET BINDER does punching and plastic binding

Making possible low-cost plastic binding of loose sheets of all types, PB-5 COMBO combines both punching and binding operations. Pages or sheets are punched 10 to 15 at a time, a plastic binding is placed on the vertical fingers, opened with a handle, and the pages are then inserted and the binding allowed to close. Any size book or other presentation can be bound, either with partial or full length plastic backing. Made by **General Binding Corp.**, 806 W. Belmont Ave., Chicago 14, Ill.

For more details circle NED-73 H3 on enclosed inquiry slip

LOADING RAMP can be moved by one man

For loading yard cars, Mobile magnesium loading ramp is light enough to be moved by one man and makes possible full utilization of power trucks in the loading operation. It will support loads of more than 13,000 lb and measures 30 ft long by approximately 6 ft wide. Equipped with a hydraulic lifting mechanism, it can quickly be raised to car level, where it is securely anchored during loading by a safety lock mechanism. A retractable trailer hitch permits power towing for long distance mobility. Made by **Magline Inc.**, P. O. Box 200, Pinconning, Mich.

For more details circle NED-74 H3 on enclosed inquiry slip

BUSCHMAN CONVEYOR overhead cable costing only $3800.00

SAVES $7000.00 ANNUALLY at Honeywell

Vertical curve of Universal Cable Conveyor inclines to convenient work height, utilizes overhead space.

A BUSCHMAN OVERHEAD CABLE CONVEYOR SYSTEM replaces former manual handling method at MINNEAPOLIS-HONEYWELL REGULATOR CO. with resulting savings of $7000.00 annually on an investment of $3800.00. This does not include recovered floor space, reduced aisle traffic, easier working conditions and increased production. It is anticipated that the overall total savings that will be realized by Minneapolis-Honeywell improved production methods in this instance is approximately $16,000.00 per year.

Why not investigate the possibilities of similar savings in your plant operations?

Write for NEW Bulletin No. 40

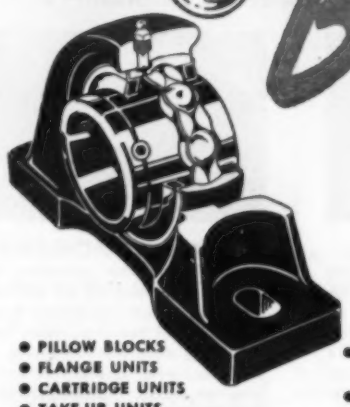
THE E. W. BUSCHMAN CO.
Spring Grove at Winton Place
Cincinnati 32, Ohio
Representatives in Principal Cities

PRODUCE MORE ... FOR LESS on Buschman Conveyors

For more details circle NED-75 H3 on enclosed inquiry slip

SEALMASTER BALL BEARING UNITS

Best even where BEARINGS take a Beating



BECAUSE

- PERMANENTLY SEALED . . . to exclude dirt and retain grease
- SELF-ALIGNING in any direction without seal distortion.
- PRE-LUBRICATED at the factory—ready for use in your plant.

- PILLOW BLOCKS
- FLANGE UNITS
- CARTRIDGE UNITS
- TAKE-UP UNITS

Write for Catalog 845

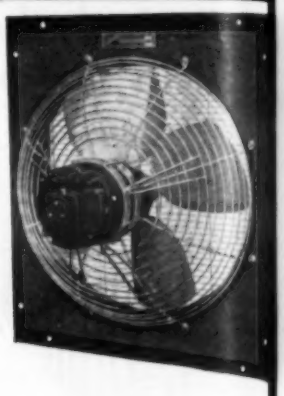
BEARING DIVISION
STEPHEN S-A ADAMSON MFG. CO.

Tellevel-Bin Level Controls
Variable Speed Reducers
SealMaster Ball Bearings
Car Pullers
Winches
Saco Speed Reducers

12 RIDGEWAY AVE., AURORA, ILL.

For more details circle NED-76 H3 on enclosed inquiry slip

Two types, 7 basic sizes. Capacities from 400 CFM to 23,500 CFM.



nyb

PROPELLER FANS

Propeller type ventilating fans deliver large volumes of air at low resistance and low current consumption. All wheels are machine balanced for smooth, vibrationless operation. They are laboratory tested, accurately rated and fully guaranteed in strict accordance with Standard Codes.

Write for Bulletin 494

THE NEW YORK BLOWER COMPANY

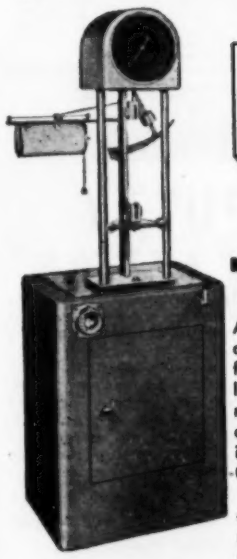
SALES OFFICES • 3171 SOUTH SHIELDS AVENUE • CHICAGO 16

FACTORY, LAPORTE, INDIANA

For more details circle NED-77 H3 on enclosed inquiry slip

small COMPACT TESTER

large ACCURATE RANGE



DILLON

multi-low-range universal

TESTER

A portable laboratory instrument that is accurate to ½ of 1%. Tests paper, thread, fabrics, plastics, springs, film, cord, wire, leather, resins, adhesives, glass, wood, ceramics, felt, cardboard, bakelite, insulation and any other materials which fall within its range. Has 5 scales: 0-10, 0-25, 0-50, 0-100 or 0-300 lbs.

Stress-strain curve automatically recorded on graph sheets. Limit switch prevents overrun. Indicates load as it is applied. Accessories permit transverse, tensile, compression and shear testing easily and economically. Speeds from 0" to 20" per minute. The ultimate in fine testing equipment yet low in cost.

Write or wire for illustrated bulletin —Today

W. C. DILLON & CO., INC.

14620NE Keswick St. Van Nuys, Calif. (Suburb of Los Angeles)

For more details circle NED-78 H3 on enclosed inquiry slip

MATERIAL STOCK PILES

10 Times Bigger

(1) Shows volume of material piled by conveyor only. (2) Shows additional storage volume provided by conveyor mounted Swivel-Piler.

from One Conveyor Position!

USE THE

S-A SWIVEL-PILER

The Stephens-Adamson Swivel-Piler mounts on the end of your fixed or portable conveyor . . . hurls up to 50 tons per hour of materials up to 20 feet in any direction. This makes possible stockpiling of up to *ten times* the amount of material handled by the conveyor only from one position. Materials handled include coal, lime, salt, sulphur, ammonium sulphate, clay, borax and similar bulk materials up to 2" lump size. Investigate this cost-cutting timesaver today.

MAIL COUPON TODAY for full information with photos and diagrams.

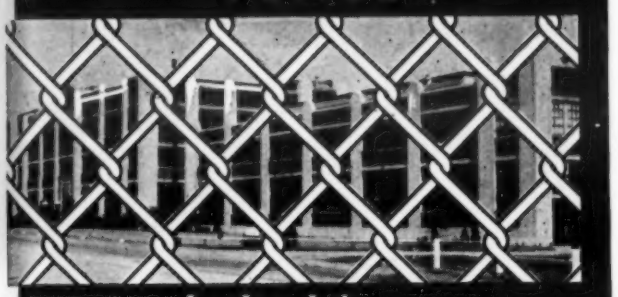
STEPHENS-ADAMSON MFG. CO.
Merchandise Division
12 Ridgeway Ave., Aurora, Ill.

Please send me:
☐ Bulletin 650 on Conveyor Mount Swivel-Piler
☐ Bulletin 550 on Wheel Mount Swivel-Piler

Name
Company
Address
City Zone State

▲ For more details circle NED-79 H3 on enclosed inquiry slip ▲

REALOCK FENCE



gives **locked-in** protection

All fittings on Realock Fence have bolts so placed that nuts cannot be removed from the outside. This means that Realock Fence provides *added protection* for your grounds and property . . . effectively discourages tampering by would-be trespassers.

Strongly constructed, Realock Fence has high resistance to the elements because of a special galvanizing process . . . gives permanent protection and trouble-free service year after year. For additional information write our nearest sales office or consult your classified telephone directory.

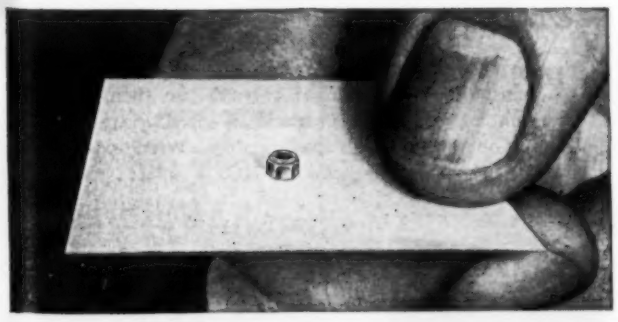
THE COLORADO FUEL AND IRON CORPORATION—Denver, Colo.
PACIFIC COAST DIVISION—Oakland, Calif.
WICKWIRE SPENCER STEEL DIVISION—Buffalo, New York

REALOCK FENCE
THE COLORADO FUEL & IRON CORPORATION
CF&I

BRANCHES IN ALL KEY CITIES

▲ For more details circle NED-80 H3 on enclosed inquiry slip ▲

Miniature ELASTIC STOP® nuts down to 0.109" across flats



NOW, miniature ELASTIC STOP nuts are available in sizes #0 through #4 in both SAE fine thread and USS coarse series—for special applications, such as electronics equipment and instruments. Smaller than any other self-locking nut they maintain a precise adjustment whether tightened against a seating surface or positioned at any point on a threaded member.

Nylon inserts make them self-locking, vibration-proof and re-usable, like all ELASTIC STOP nuts. They are simpler and less expensive to assemble than double nuts or soldered units.

WRITE FOR design information on Miniature Nuts and other special and standard ESNA fasteners. Address Dept. N38-837.

ESNA

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, N. J.

DESIGN HEADQUARTERS FOR SELF-LOCKING FASTENERS

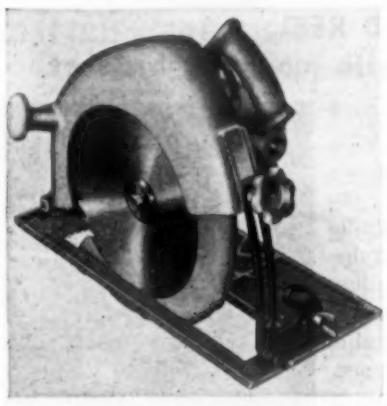
▲ For more details circle NED-81 H3 on enclosed inquiry slip ▲

WATER-OIL SEPARATOR processes vacuum pump oils

Effective for removing moisture from vacuum pump oils, or for use with turbines and hydraulic systems, the Houdaille Dri-Pure water-oil separator has two filtering compartments using Palconia (cellulose fiber) and Cranite (fuller's earth) filtering media. Also incorporated is a thermostatically controlled heating and settling tank. Filter cartridges are easily accessible for changing. Heater units can be connected to any electrical outlet. Made by **Honan-Crane Corp.**, 668 Wabash Ave., Lebanon, Ind.

▲ For more details circle NED-82 H3 on enclosed inquiry slip ▲

AIR-POWERED SAW portable model cuts 4⅜-in. deep



For use with 90 psi air pressure, model S-12 portable circular saw uses 12-in. blades with free speed of 2400 rpm and weighs 33 lb. A Multi-Vane air motor gives fast response to throttle lever which is housed inside pistol grip. Blade tilts for bevel cuts from 0 to 45 degrees, and maximum depth of cut is 4⅜-in. Sufficient power is available for full cut to be taken in any lumber without stalling the blades. Set of blades is available for cutting various materials. Made by **Ingersoll-Rand Co.**, News Service Dept., Phillipsburg, N. J.

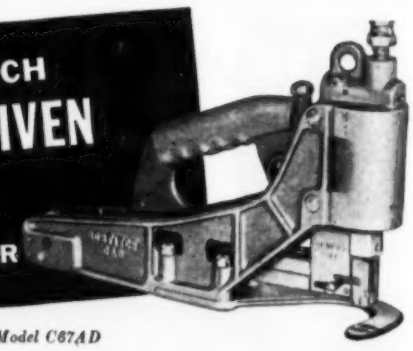
▲ For more details circle NED-83 H3 on enclosed inquiry slip ▲

OUTLET LOCATOR also "finds" conduit in wall

Electric outlets covered with plaster or concrete as well as electrical conduit in walls or floors can be located easily with this Con-Let box locator. It is fully portable and does not require batteries or other source of power. Made by **Goldak Co.**, 1544 W. Glenoaks Blvd., Glendale 1, Calif.

▲ For more details circle NED-84 H3 on enclosed inquiry slip ▲

BOSTITCH AIR-DRIVEN HEAVY DUTY STAPLER



Model C67AD

POWERFUL Drives staples with far greater force, faster and with less effort than is possible with hand-operated machines.

FAST One-hand, trigger operation. Loads quickly with ¼", ⅜" or ½" staples.

3 MODELS Available with 3 types of clinching blade: "C" blade and "openhead" blade for sealing overlapped flaps of corrugated containers, and straight blade for ordinary stapling.

Write for Bulletin 272. BOSTITCH, 688 Mechanic Street, Westerly, R. I.

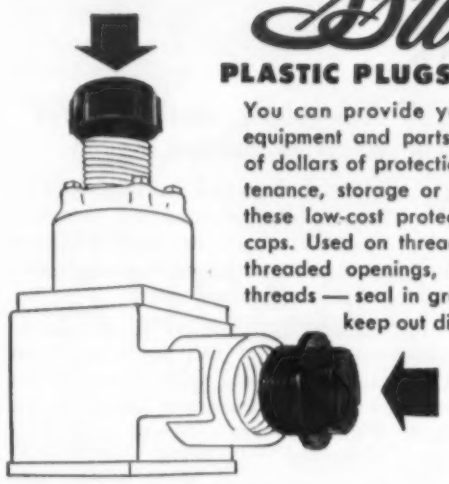
BOSTITCH®

fastens it better, AND FASTER with wire

▲ For more details circle NED-85 H3 on enclosed inquiry slip ▲

STOP COSTLY DAMAGE with these inexpensive

S.S.White PLASTIC PLUGS and CAPS



You can provide your expensive equipment and parts with hundreds of dollars of protection during maintenance, storage or equipment with these low-cost protective plugs and caps. Used on threaded studs or in threaded openings, they safeguard threads — seal in grease and oil — keep out dirt and moisture.

WRITE FOR BULLETIN P-5203

It has full details on the many sizes and styles of S.S.White plastic plugs and caps.

THE S.S.White PLASTICS DIVISION
DENTAL MFG. CO. Dept. 7F, 10 East 40th St. NEW YORK 16, N. Y.

WESTERN DISTRICT OFFICE: Times Building, Long Beach, California

▲ For more details circle NED-86 H3 on enclosed inquiry slip ▲

For Production Line Applications and General Lifting

CM COMET ELECTRIC HOISTS

PUSH BUTTON CONTROL

Capacities: ¼ to 2 tons

PENDANT ROPE CONTROL

● Plug in on 110 single phase or 220—440 volt power lines. Fast. Safe. Herc-Alloy flexible welded load chain. Lifetime lubrication. COMET hoists save energy . . . reduce materials handling costs. Anyone can operate.

COMET CATALOG No. 150—18 pages of illustrated information sent on request or ask your CM Distributor.

CM HOISTS AND CHAIN

CHISHOLM-MOORE HOIST DIVISION
COLUMBUS McKINNON CHAIN CORPORATION
TONAWANDA, NEW YORK
DISTRICT OFFICES: NEW YORK, CHICAGO, CLEVELAND

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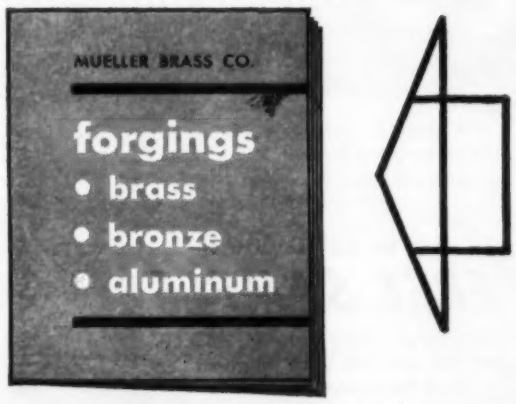
Write for your copy of this new 32-page engineering manual . .



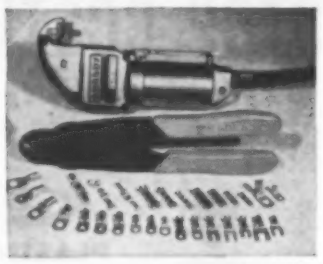
This new illustrated manual is full of information about Mueller Brass Co. brass, bronze and aluminum forgings . . . includes charts, graphs, facts and figures that give complete data about design factors, tolerances and the chemical, mechanical and physical properties of the MBC forging alloys. Get your copy of this valuable handbook today . . . it's yours for the asking.

MUELLER BRASS CO., PORT HURON 27, MICHIGAN

112-A

▲ For more details circle NED-88 H3 on enclosed inquiry slip ▲

COMPRESSION TERMINALS and LINKS



All types, all sizes quickly, easily installed with wide variety of matched tooling

All sizes of solderless lugs and links for all conductors and all applications in manufacturing and plant wiring can be rapidly, economically installed by means of Burndy tooling, coordinated with specific manufacturing methods and production requirements.

Burndy Hylugs and Hylinks are of one-piece, pure copper construction, so they can be indented on any side of the barrel and they can't split. There are no intermediate contact surfaces — current is carried by the entire cross-section. Plated to resist corrosion. Listed by Underwriters' for #22 through 2000 Mcm.

Intimate high-pressure contact between conductor and connector is assured by Burndy matched installation tools. Manual, hydraulic, and pneumatic tools are designed for portable, on-the-job use and for production bench operation.

For complete details and catalogs, write

Dept. H, BURNDY, Norwalk, Connect.

▲ For more details circle NED-89 H3 on enclosed inquiry slip ▲

STOP FAST FAST STOP FAST FAST STOP

START SMOOTHLY SMOOTHLY START

with Star-Kimble Brakemotors

Split-second stops with Star-Kimble Brakemotors—because of extra-large brakelining area. Smooth starts—because of instantaneous brake release. Rapid reversals without plugging. Positive holding of loads. *All* through hundreds of thousands of operations—with little or no attention. Every Star-Kimble Brakemotor is a compact, integral unit—one manufacturer—one responsibility.

For information on design and service features, write for Bulletin B-501-A

STAR-KIMBLE

MOTOR DIVISION OF
Miehle Printing Press and Mfg. Co.
214 Bloomfield Avenue Bloomfield, N. J.

▲ For more details circle NED-90 H3 on enclosed inquiry slip ▲

thousands of users PROVE "HI-TEMP" C-5 THREAD COMPOUND IS BEST FOR ALL STUD THREADS and STAINLESS STEEL APPLICATIONS

✔ speeds up dis-assembly time
✔ prevents stud breakage
✔ eliminates pitting of stainless steel

NO MORE FROZEN OR GALLED STUDS EVEN AT 1800°F

Let us SEND you a **FREE SAMPLE** so you can PROVE to YOURSELF that C-5 will lick your toughest stud breakage problems!

To assure easy maintenance on products having threaded assemblies many leading product engineers have specified the use of Fel-Pro C-5 as an anti-seize coating on stud threads prior to final production line assembly.

Fel-Pro's exclusive Colloidal-Copper formula allows for easy separation and reduces stud breakage of threaded assemblies after long exposure to extreme temperatures. It eliminates pitting of stainless and alloy steel even where dissimilar metals are joined.

Conduct your own tests with C-5 "Hi-Temp" at our expense. Write for Free Sample and complete data sheet TODAY!

FELT PRODUCTS MFG. CO. 1510 Carroll Ave., Chicago 7, Ill.

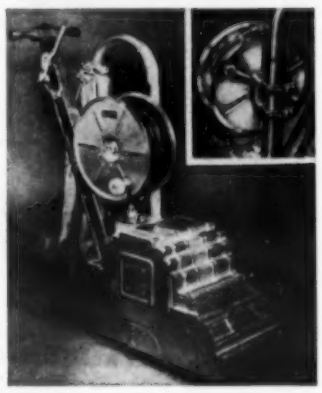
▲ For more details circle NED-91 H3 on enclosed inquiry slip ▲

SPRINKLER SHUT-OFF PLUG for overhead fire sprinkler systems

Preventing unnecessary water damage by shutting-off sprinkler heads operating either after a fire or because of mechanical trouble, Sprinkler-Stopper has wedge-shaped head which inserts into individual units. It contains spring-backed plate and neoprene diaphragm which covers the outlet. Sufficient pressure to stop water is obtained by inserting wedge into sprinkler ring. A socket handle mounts the wedge on a swivel for use with upright or pendant heads. Rods or pole of appropriate length is furnished by user. Made by **Sprinkler Stopper Sales Co.,** 407 Grand Ave., Englewood, N. J.

▲ For more details circle NED-92 H3 on enclosed inquiry slip ▲

ELECTRIC CORD REEL equipped with mounting bracket



Port-O-Reel electric cord reel is equipped with mounting bracket for attachment of reel to frame, chassis or handle of portable power equipment, including industrial vacuum cleaners, floor sanders, portable bench saws, conveyors, etc. Reel has built-in dust-tight collector ring for continuous flow of current when turned. Free-turning knob facilitates winding and reel is equipped with adjustable brake and lock. It is furnished with or without cord and plugs. Up to No. 12 three-conductor cord can be accommodated by the 5-lb (empty) unit. Made by **Industrial Electrical Works,** Room B277, 1501 Chicago St., Omaha 2, Nebr.

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DO YOU KNOW? Private line intercommunicating systems for all sizes of businesses are now available. This system ranges in scope from a ten-line automatic system to a fifty-line system which can easily be expanded to over 5000 lines. Also offered for smaller companies is a low cost two to five-line Direct-A-Call system. Latter can be installed by purchaser. Optional service features of Private Line systems include executive priority, voice paging, conference facilities, group hunting and automatic ringing. For details, write Connecticut Telephone & Electric Corp., 95 Britannia St., Meriden, Conn.

▲ For more details circle NED-94 H3 on enclosed inquiry slip ▲

YOUR BEST DEFENSE *Against* **EYE** *Injuries*

the SAF-I-SPEC

- Featherlite Comfort and Smart Appearance assure employee acceptance.
- Low cost replaceable Optilite® lens.
- Fit over personal glasses.
- Meet Federal Spec. for impact and optical qualities.

Write for Literature and Prices

UNITED STATES SAFETY SERVICE CO.
KANSAS CITY 6, MISSOURI · BRANCHES IN PRINCIPAL INDUSTRIAL CITIES
In Canada: PARMELEE, LTD. Toronto — Montreal

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HOMER PERMANENT non-electric MAGNETIC DRUMS and DUCTS for AUTOMATIC REMOVAL of TRAMP METALS

Pat. Pending

HOMER Magnetic Ducts for the removal of tramp iron from Air or Gravity conveyed Grains, Textile and Chemical materials, etc. These units are used with almost any type of processing machinery.

HOMER Magnetic Drums for removal of tramp iron from fine or pulverized dry products, as, Foods, Chemicals, Plastics, Paint Pigments, etc. These units can be used with chutes, hoppers, screw or belt conveying machinery.

Send for detailed information.

The HOMER MANUFACTURING CO., Inc.
Dept. 1-25 LIMA, OHIO

Producers of Magnetic Separator Equipment Since 1923

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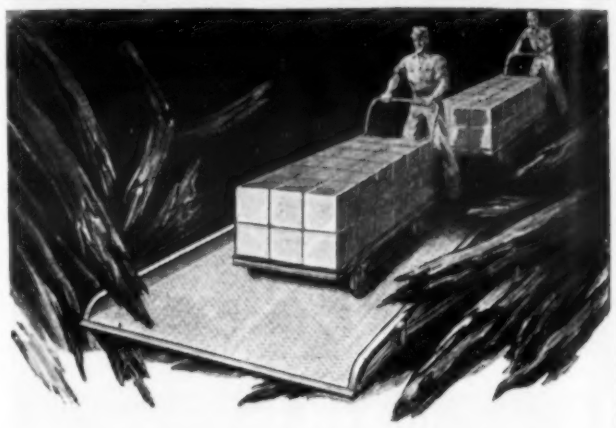

BREAK THE ROADBLOCKS to Faster, Lower-Cost Loading

Now!—*without capital expenditure*—clear away the costly bottlenecks in loading operations! Flash the green light to your shipping and receiving departments by speeding up the movement of trucks in and out of all loading areas. Like many other leading companies, you, too, can effect substantial cost savings and greatly increase loading capacity by installing Magliner Magnesium Dock Boards. To get the benefits of fast, smooth, low-cost loading investigate magnesium *light*, magnesium *strong* Magliners for your docks today.

MAGLINER *MAGNESIUM* DOCK BOARDS *Now Available in 34 Standard Models*

These low-cost units are now available in 34 standard models, capacity-rated up to 2,000 lbs. (axle load). Constructed like a bridge, these Standard Magliner Boards insure absolute mechanical safety to men, equipment and load. Because Magliners are easily handled by one man, many commercial carriers use them as standard equipment in trucks to speed up transfer operations at all loading stops. Write today for information bulletin DB-203.

MagLiner MAGNESIUM **DOCK BOARDS**

LIGHT STRONG SAFE ...

WRITE FOR INFORMATION BULLETIN DB-203

Custom-Engineered Dock Boards are Also Available —Write for Information.

MAGLINE INC. • P.O. BOX 396 • PINCONNING, MICHIGAN

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Add Years to Air Equipment Life— Use Filtered Air

All air lines collect moisture. Rust and dirt enter the lines, too, to clog lines, and shorten equipment life.

Give your air equipment top protection with Schrader Air Line Filters ahead of each air control unit. Schrader filters offer no restriction to full air flow, even after long use. Moisture is trapped in the bottom of the filter, can be drawn off through a drain cock.

See how Schrader Air Line Filters and other Schrader accessories can add to your effective use of air. Send for the Schrader catalog today.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Ave., Dept. E-42, Brooklyn 38, N. Y.

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If the equipment you design calls for 29.9" of vacuum or 25 psi pressure

Wings in this Leiman Pump take up their own wear, year after year, and always maintain contact with cylinder wall. *See our Listing in Sweet's Product Design File*

Write for 16-page catalog and blueprints of typical applications on Leiman rotary positive pumps—choice of industry since 1889.

LEIMAN BROS., INC.
167 Christie Street, Newark 5, N. J.

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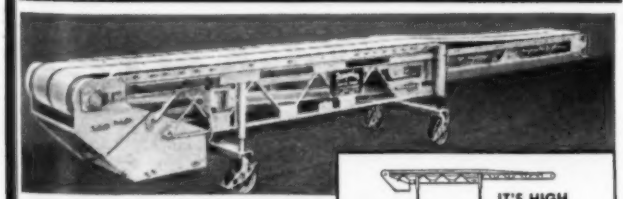

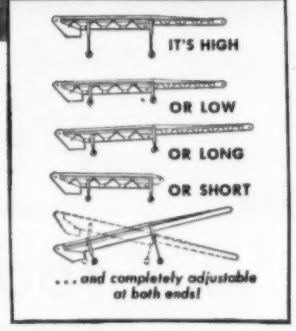

Where can *you* use this new FARQUHAR EXPAND-O-VEYOR?

Completely adjustable in height and length!

Use this new Farquhar *Expand-O*-Veyor at maximum length and height settings one day ... at minimum settings, the next day. Or, operate it at any combination of height and length positions you desire. Perfect for loading and unloading trucks—can be shortened or expanded as the truck becomes loaded or emptied. Get more information about this new *Expand-O*-Veyor's versatility today. Write to the address shown below, telling us what you move. There's no obligation, of course.

OLIVER *Farquhar* CONVEYORS

FREE! "Owners Report"—a booklet of case histories describing money-saving Farquhar conveyor installations. Write: The OLIVER Corporation A. B. Farquhar Division Conveyor Dept. G-04, York, Penna.

POWER-BELT & GRAVITY CONVEYORS

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HYDRAULIC LIFT TRUCK
five interchangeable fork lengths

Manually operated, the Turnabout Ajust-A-Fork hydraulic lift truck has five interchangeable fork lengths of 30, 36, 42, 48, and 60 in. Truck and forks can be purchased individually. Simple adjustment on truck frame provides a 25 or 27-in. fork width. Truck has capacity of 2500 lb, is maneuverable in close quarters, weighs 299 lb and has a 270-degree steering arc. Lowered height is 3¼ in. and lift is 4 in. Front 8 x 2-in. resinoid plastic wheels have roller bearings. Aluminum ball bearing rear wheels have a 3¼-in. diameter and 4¼-in. face. Floor lock holds truck in position when handle is horizontal. Made by **Rack Hydraulic Equipment Corp.**, Dept. N-1, Connellsville, Pa.

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CENTRIFUGAL PUMP
fractional horsepower size

Totally closed from the atmosphere, fractional horsepower Chempump, a centrifugal pump, is seal-less, leakproof unit which requires but little maintenance. It is offered in wide variety of materials suited for handling corrosive, radioactive and highly volatile fluids, and for processes where vacuum is used. Operating principle permits fluid being pumped to enter part of the motor. Stator and windings are isolated by corrosion resistant nonmagnetic alloy cylinder inserted in the air gap. Rotor is hermetically sealed with the same alloy. Made by **Chempump Corp.**, Station D, 1300 E. Mermaid Lane, Philadelphia 18, Pa.

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DO YOU KNOW? "Electrical Wiring with Alcoa Aluminum" is the latest motion picture film in the Alcoa series of "how-to-do-it" guides for users of aluminum. Suggested procedures, views of electricians at work in large office building and techniques of handling and joining in installing aluminum conduit, cable and wire are shown. Accompanying film is a booklet which summarizes data presented in film and is reference for users of aluminum wire, cable and conduit. Direct your request for film to Aluminum Co. of America, Motion Picture Div., 818 Alcoa Bldg., Pittsburgh 19, Pa.

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With a valve to suit the job air cylinders can be made to work wonders. Mead Air Valves, Single and Double Acting Air Cylinders, will help you cut costs, speed up work. Write for complete new Catalog of famous Mead air-operated devices!

MEAD SPECIALTIES COMPANY
4114 NO. KNOX AVE., DEPT. N-83-A, CHICAGO 41, ILL.

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ZIP OFF

with **AURAND** CLEANING TOOLS

AURAND rotary chipping action quickly, easily, thoroughly removes scale, paint, rust, and other accumulation from any hard surface. Renewable cutter heads and fool-proof cutting depth adjustment allow the unskilled operator to produce perfectly clean surfaces. Available in electric or pneumatic models. Write today for further information on cleaning your iron, steel, brick, concrete, and other hard surfaces.

Get the time and money-saving facts

WRITE TODAY TO DEPT. 14

AURAND MFG. & EQUIP. CO.
2643 Colerain Avenue • CINCINNATI, OHIO

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For All Sheldon Lathes less than 5 Years old...we have just published a new Parts List Manual, with:

.... every lathe part and sub-assembly illustrated, named, numbered and positioned on explanatory exploded drawings.

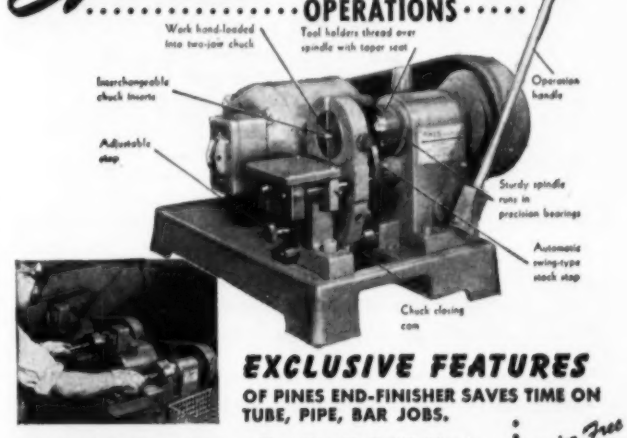
.... a section which illustrates and describes each of over 50 modern Attachments and Accessories to make your Sheldon Lathe even more versatile, productive and valuable to you.

To get this valuable Parts List (and Accessory) Manual just write (1) the serial number of your Sheldon Lathe and (2) your name, and (3) your firm name and address, on a post card, letterhead, billhead or slip of paper and mail it to "Parts Manual"

SHELDON MACHINE CO., INC.
4215 North Knox Ave., Chicago 41, Illinois

▲ For more details circle **NED-106 H3** on enclosed inquiry slip ▲

Speeds CHAMFERING, POINTING, FACING, REAMING OPERATIONS



At Kold-Hold Mfg. Co., two Pines Air-Operated Machines with single foot control speed tube deburring and facing operations. One operator produces 1200 tube ends per hour.

EXCLUSIVE FEATURES
OF PINES END-FINISHER SAVES TIME ON TUBE, PIPE, BAR JOBS.

Pines Portable End-Finisher is especially designed for fast, accurate work. Small and compact, its exclusive operating features save time. Forward travel of operating lever clamps and feeds work to rotating cutters in one pass. Operator always has one hand free for stock handling. Equipped with quick, interchangeable tool holders, chuck inserts, 8-speed sheave (760 to 3920 rpm), sturdy spindle, grease-sealed precision bearings. Unit illustrated handles stock diameters up to 2". Maximum feed stroke is 1¼". Automatic air-operated units for higher production work and larger sizes up to 5" capacity are also available.

Write for Free Bulletin

▲Write today for more facts. Learn how these machines are built to save time on a wide range of work.

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery
641 WALNUT • AURORA, ILLINOIS

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HIGH AND LOW TEMPERATURES

NEW BENCH-TYPE TEST UNIT

WEBBER

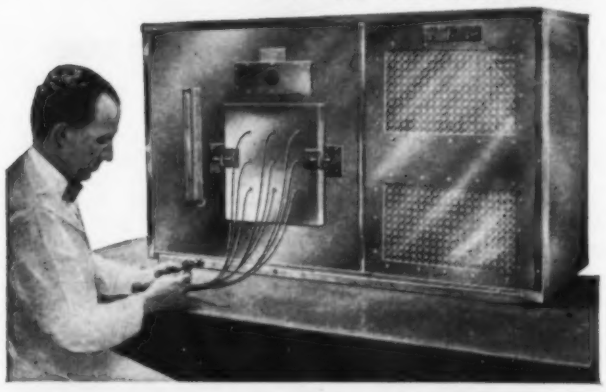
TRADE MARK REGISTERED

COMPLETE TEMPERATURE RANGE

TESTING UNITS

Combine high and low temperatures within the same cabinet with all controls self contained. Unit measures 50"x28"x20" with a testing chamber 12"x12"x12". Temperature range is from -80° F., to 185° F. Heat application is accomplished with reverse cycle refrigeration, which eliminates the hazards associated with open heating elements. A blower is provided for even distribution of temperatures and greater testing accuracy. Latch-type or hinge-type door optional. Accelerated pull-down to -80° in 30 minutes or less.

Write today for more complete information



INDUSTRIAL FREEZER DIVISION
WEBBER MANUFACTURING COMPANY, INC.
(Formerly Webber Appliance Co., Inc.)
2749 MADISON AVENUE • INDIANAPOLIS 3, INDIANA

For more details circle **NED-108 H3** on enclosed inquiry slip

NOW! THE

DYNACLONE®

PATENTED

The ULTIMATE in Dust Filters

1. CONSTANT SUCTION AT DUST SOURCES
2. SELF CLEANING FOR CONTINUOUS OPERATION
3. NO AUXILIARY MOTORS OR BLOWERS (THE MAIN OPERATING FAN DOES THE CLEANING)
4. NO ABRASION OF BAGS BY THE CLEANER

The traveler (T) is open to atmosphere by means of a 4-inch flexible hose. As the traveler contacts the open end of each bag, the negative pressure which exists in the dust chamber draws a blast of air (from the atmosphere) through the bag to thoroughly clean it.

Each bag is cleaned, on an average, once every five minutes, thereby assuring uniform suction at dust sources.

The Dynaclone has now been in operation in many different industries for the past three years. More than half of present orders are from the same customers.

SEND FOR BULLETIN 102

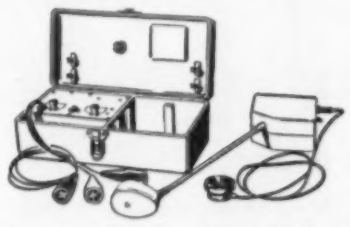
THE W. W. SLY MFG. COMPANY
4748 TRAIN AVENUE CLEVELAND 2, OHIO
New York • Chicago • Philadelphia • Syracuse • Detroit • Buffalo • Cincinnati • St. Louis • Minneapolis • Birmingham • Los Angeles • Toronto

SLY PIONEERS & LEADERS in INDUSTRIAL DUST CONTROL

For more details circle **NED-109 H3** on enclosed inquiry slip

CABLE-FAULT FINDER
portable unit checks electrical cable

Simple to operate, this light weight portable cable fault finder locates open circuits or low and high resistance shorts of 10,000 ohms or less in rubber, Neoprene or similarly jacketed cables. Both transmitter and receiver are powered by standard dry cells. When not in use, receiver fits into space provided in the carrying case for the transmitter. Complete unit weighs 23 lb. Made by **Joy Mfg. Co.** Dept. CFF-42, Henry W. Oliver Bldg., Pittsburgh 22, Pa.



For more details circle **NED-110 H3** on enclosed inquiry slip

PORTABLE ELECTRIC GRINDER
for bench or production work

Lightweight aluminum alloy housing, ball bearings, and fully enclosed commutator and switch are features which contribute to ease of handling and troublefree operation of this Mall Aerial portable electric grinder on both workbench and industrial production use. It is made in three sizes: with 6 x 1-in. wheel it has a free speed of 3730 rpm; 5 x 1-in. wheel, 4430 rpm; and 4 x 1-in. wheel 5560 rpm. Made by **Mall Tool Co.**, 7725 S. Chicago Ave., Chicago 19, Ill.

For more details circle **NED-111 H3** on enclosed inquiry slip

V-BELT PULLEY
quickly detachable from its hub

Flanged type split taper bushing permits hub of QD Junior fractional horsepower V-pulley to grip shaft and still allows easy assembly and removal. Two-piece assembly is drawn together by three slotted hex-head machine screws, using either wrench or screwdriver. Additional tapped holes permit use of assembly screws as jack screws to break the cone grip. A common hub is used for complete pulley range, which is from 3.5 to 15.4-in. diameter. Bore range is from ½ to 1¼-in. by 1/16-in. increments. Made by **Worthington Corp.**, Mechanical Power Transmission Div., Oil City, Pa.

For more details circle **NED-112 H3** on enclosed inquiry slip

FASTER HEAT TRANSFER for 50% of the COST

with

PLATECOILS

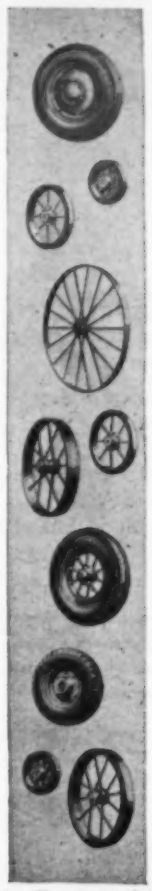
(REPLACE PIPE COILS)

A Platecoil has more heat transfer area than a pipe coil twice its size. Thus it takes only half as much Platecoil to heat a given area. You have 50% less steel to pay for so you can save nearly 50% in initial cost. The Platecoil takes only half as much space in the tank. The greater BTU transfer per unit area of Platecoil also means faster heating or cooling. Platecoils require less maintenance and can be removed without dumping the solution.

Send for complete technical manual and descriptive Bulletin No. P57.

PLATECOIL
Division
Tranter Mfg. inc.
LANSING 4, MICHIGAN

For more details circle **NED-113 H3** on enclosed inquiry slip



TRUCKS AND TRAILERS MOVE FASTER, EASIER ON NEW WHEELS BY *ELECTRIC*

Modernize baggage-trucks, industrial trailers, floor trucks, mail carts and other portable equipment with new ELECTRIC wheels **for faster, easier handling.** There is an ELECTRIC wheel for every job.

Our 65 years of engineering "know-how" assures you of top performance from ELECTRIC equipment.

ELECTRIC wheels are furnished with or without roller bearings to fit your own axles or complete with axles—steel tires, molded-on-tires, or pneumatic tires. All types are available in a full range of sizes.

Our experienced engineers are always at your service.

WRITE FOR COMPLETE INFORMATION

ELECTRIC WHEEL CO.

2818 CHERRY • QUINCY, ILLINOIS

For more details circle **NED-114 H3** on enclosed inquiry slip

New! Low-Cost! Wide-Range!

VARIABLE Speed Sheaves
Easily Attached to Any Machine

1/15 TO 15 HP.
RATIOS UP TO 8:1

● Simple, sturdy Speed Selector Sheaves are applied to any machine in only a few minutes . . . giving you wide-range speed control at extremely low cost. You get wide speed variations with standard V-belts, since two variable pitch sheaves are used. Eliminates bulky sliding motor bases, movable jackshafts and wide, high-cost special V-belts.

- Standard V-belts
- Automatic belt alignment
- Fixed shaft centers
- LOW COST

Write FOR FREE BULLETIN

SPEED SELECTOR INC

118-N NOBLE COURT • CLEVELAND 13, OHIO

For more details circle **NED-115 H3** on enclosed inquiry slip

THIS PLANT

Provides **TOOLING** and builds **SPECIAL MACHINES**

Thirty-four years of special machine and tool building has trained SEMCO tool-makers, engineers and skilled workmen—well able to most efficiently design, develop and build your new machinery and production equipment.

Write for a copy of our *Free Pamphlet—"Men, Machines and Equipment"*. It gives a practical answer to your tooling, special machine development and experimental problems.

SEMCO
SERVICE MACHINE COMPANY
INCORPORATED

202 MILLER STREET ELIZABETH, N. J.

For more details circle **NED-116 H3** on enclosed inquiry slip

High Stamping Costs Got You Down?

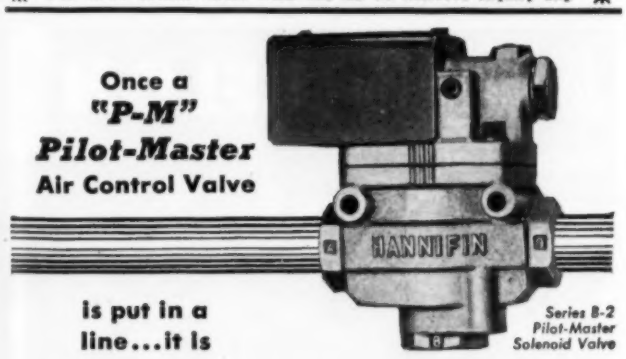
If your problem is keeping production costs down and output up, here is a line of Clearing presses designed for you. Just right for the many stamping jobs found in the medium tonnage range, these presses give you top economy in terms of first cost, low maintenance and efficient operation. Find out more about Clearing Double Crank Straight Side Presses today.

Write for free folder.

CLEARING MACHINE CORPORATION • 6494 WEST 65TH STREET • CHICAGO 38, ILLINOIS
HAMILTON DIVISION • HAMILTON, OHIO

▲ For more details circle **NED-117 H3** on enclosed inquiry slip ▲

▲ For more details circle **NED-118 H3** on enclosed inquiry slip ▲



Once a "P-M" Pilot-Master Air Control Valve is put in a line...it is

never removed!

That's right: You use a pipe wrench only once...then never touch the piping again. To renew this valve you simply replace a cartridge that contains all the working parts. The valve body—a simple, sturdy housing—need never be removed from the line. Think of what this can mean to you in reduced down time and lower maintenance costs! Plan now to standardize on Hannifin Pilot-Master Valves.

- 2-way, 3-way and 4-way
- All sizes ¼" to 1¼"
- Pressures from 15 to 150 P.S.I.

WRITE FOR BULLETIN NO. 231

HANNIFIN

Hannifin Corporation, 1127 S. Kilbourn Ave., Chicago 24, Ill.
AIR AND HYDRAULIC CYLINDERS • PRESSES • AIR CONTROL VALVES

▲ For more details circle **NED-119 H3** on enclosed inquiry slip ▲

REPRODUCTION COPYING SETUP includes lighting and camera units

Automatically controlled exposure and lighting are features of this XeroX copying camera and easel equipment which is designed to copy engineering drawings or other subject materials onto a 8½ x 13-in. XeroX plate for transfer to a paper master by the xerography process. Relay on control box operates four 300-w lights only when camera shutter is open. Original to be reproduced is placed on the 17 x 22-in. tilting copy board. After exposure, plate is processed and the image is transferred to an offset paper master, which is then fused to permanency in a few seconds. Multiple copies can be reproduced of anything written, printed or drawn by this system. Developed by **Haloid Co.**, 413 Haloid St., Rochester 3, N. Y.

▲ For more details circle **NED-120 H3** on enclosed inquiry slip ▲

SWING CUTOFF SAWS four models in line

Applications of line of Heston & Anderson swing cutoff saws have been broadened by addition of a new model and the redesign of its smallest model. Shown, left to right, are No. 55 machine, with 16 or 18 in. blade; No. 25, with 14 in. blade; new model 15, with 12-in. blade; and redesigned No. 5, a 10-in. bench model which is also available as a floor model. Company's automatic air operating unit can be used with all models to give them maximum speed. Tests have shown up to 77 strokes per minute were reached in cutting 6 to 12-in. core blocks. Made by **St. Paul Foundry & Mfg. Co.**, Heston & Anderson Div., 607 Kirkwood Ave., Fairfield, Iowa.

▲ For more details circle **NED-121 H3** on enclosed inquiry slip ▲

DO YOU KNOW? Complete office equipment such as desks, files, chairs, tables, etc. are now available through established dealers under terms of new "Lease Plan." Operating over a minimum of three years, plan requires that lessee agree to pay a diminishing yearly rental in quarterly or monthly installments. Rentals can be charged off as operating expense, since no capital investment has been made. Full details of plan are available from Globe-Wernicke Co., Dept. T, 5028 Carthage Ave., Cincinnati 12, O.

▲ For more details circle **NED-122 H3** on enclosed inquiry slip ▲

Specify CONTINENTAL UST IDLERS

- UNIT-SEALED
- TIMKEN BEARINGS
- PRE-LUBRICATED

Saves GREASE! Saves LABOR! Saves BELTS!

If you use belt conveyors—you need Continental Idlers!

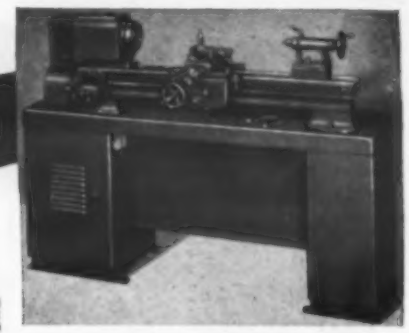
Write for Bulletin NED-116

ALL SIZES! ALL TYPES! CG-5302

INDUSTRIAL DIVISION
CONTINENTAL GIN COMPANY
Birmingham 2, Ala.
ATLANTA • DALLAS • MEMPHIS • NEW YORK

▲ For more details circle **NED-123 H3** on enclosed inquiry slip ▲

Presenting THE 12" SWING Logan LATHE



IT'S BIG...
With 12" swing, 1" collet capacity, 1⅛" spindle hole, and 35" center distances this newest Logan handles most lathe work.

IT'S RUGGED...
Heavy headstock, massive spindle and rugged construction throughout make it a lathe of precision, stability and power.

IT'S VERSATILE...
Hogs out heavy cuts smoothly. Equally effective in high speed production and second operation work. Sustained accuracy at all spindle speeds (38 to 1260 rpm) is inherent in the ball bearing spindle mounting. Features like extra, large compound and cross feed dials adapt it to exacting tool room operations. Durable construction and enclosed design are important advantages in the school shop.

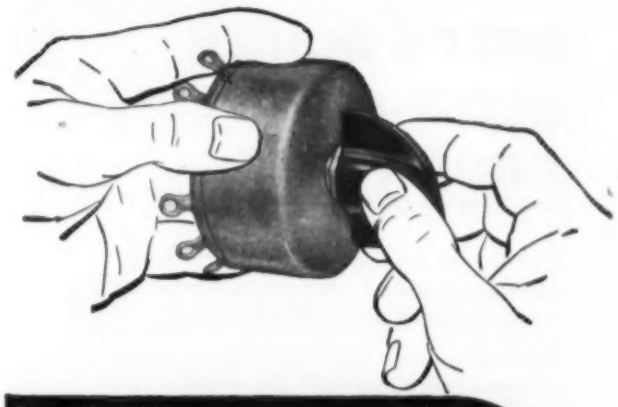
IT'S ACCURATE...
Wide-spaced, oversize ball bearing spindle mounting means *sustained* accuracy. Total spindle run-out, 12" from bearing is less than .0005". 6¼" wide bed is heavily ribbed for rigidity. 2 V-ways and 2 flat ways precision ground to within .0005". Large dials on new carriage permit accurate readings. Precision built throughout.

IT'S SIMPLE TO OPERATE...
No spindle adjustment for any speed from 38 to 1260 rpm. Dials are easy to read, controls easily accessible. Outboard drive simplifies belt adjustment. New operators quickly master it.

IT'S ECONOMICAL...
By multiple savings—investment, maintenance, space and power—the 12" Logan brings new economy and profits to lathe operation.

Get full facts—See your Logan Dealer—or WRITE to
LOGAN ENGINEERING CO.
Lawrence and Lamon Avenues Chicago 30, Illinois

▲ For more details circle **NED-124 H3** on enclosed inquiry slip ▲

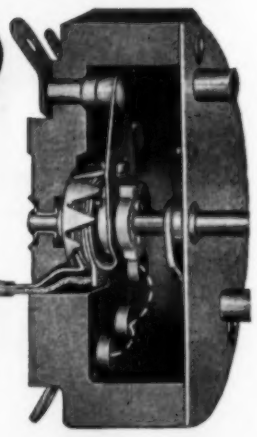


OHMITE®

A-C, POWER-TYPE, ROTARY TAP SWITCHES

ARE PREFERRED FOR SPECIAL DESIGN FEATURES

HERE'S WHY!



1. **CERAMIC CONSTRUCTION** provides perfect insulation, unaffected by arcing. Mechanism enclosed (except on Model 111).
2. **EXTREMELY COMPACT,** but with many taps. Convenient terminals. Back-of-panel mounting.
3. **SELF-CLEANING SILVER CONTACTS** provide low surface resistance, high conductivity. No contact maintenance.
4. **"SLOW-BREAK, QUICK-MAKE"** action is ideal for A-C operation.
5. **"DEAD" SWITCH SHAFT,** insulated from load by ceramic driving hub.

5 SIZES
10 amp—150 v
15 amp—150 v
25 amp—300* v
50 amp—300* v
100 amp—300 v
*150 volts
²between taps

Write on Company Letterhead for Catalog 40

OHMITE MANUFACTURING CO.
4841 Flournoy St., Chicago 44, Ill.

Be Right with OHMITE

RHEOSTATS • RESISTORS • TAP SWITCHES

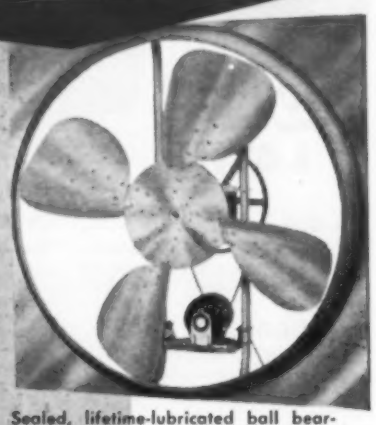
▲ For more details circle **NED-125 H3** on enclosed inquiry slip ▲

At Last...

AN INDUSTRIAL FAN WHICH

REQUIRES NO MAINTENANCE

OFFERS FULL 10-YEAR GUARANTEE



Sealed, lifetime-lubricated ball bearings in *both* fan and motor never require lubrication. Install 'em and forget 'em.

INDUSTRIAL FANS BY

Murray COMPANY OF TEXAS INC

Atlanta, Ga.

H. C. BIGLIN CO., INC.

177 HARRIS STREET, N.W. • ATLANTA, GEORGIA

▲ For more details circle **NED-126 H3** on enclosed inquiry slip ▲

KEEPS BOILER BLOW-DOWN LINES *DROP TIGHT*

Yarway Seatless Blow-Off Valves keep blow-down lines *drop tight* because *there is no seat to score, wear, clog or leak.*

The well-known balanced sliding plunger design—combined with the newest metallurgical developments—make Yarway Seatless Blow-Off Valves rate top efficiency for low and medium pressure boiler plants.

Among high pressure plants, Yarway Unit Tandem Valves are used by more than 4 out of 5.

● Yarway Seatless Blow-Off Valve showing balanced sliding plunger design. Available single or in tandem (below).

If you operate a boiler, be sure to send for the Yarway Blow-Off Valve Books—Bulletin B-426 for pressures to 400 psi or Bulletin B-433 for higher pressures to 2500 psi. Write . .

YARNALL-WARING COMPANY
131 Mermaid Avenue, Philadelphia 18, Pa.
BRANCH OFFICES IN PRINCIPAL CITIES

YARWAY blow-off valves

▲ For more details circle **NED-127 H3** on enclosed inquiry slip ▲

BUTTON HEAD SOCKET SCREWS feature round tops, flush edges

In applications where countersinking is not possible, these button head socket screws provide a relatively smooth surface. Rounded tops and flush edges eliminate exposed sides, minimizing hazard of catching on clothing. Since head is shallower than standard socket screw, needed strength is given to socket by Pressur-Forming process and use of Allenoy steel. Screw body is cold-worked and socket head is cold-drawn. Sizes range from No. 8 x ¼ in. through ⅝ x 2 in. standard with NC threads. These sizes are also standard with NF threads, except in ½ and ⅝-in. diameters. Made by **Allen Mfg. Co.**, 101 Sheldon St., Hartford 1, Conn.

▲ For more details circle **NED-128 H3** on enclosed inquiry slip ▲

INTEROFFICE TELEPHONE system has two to five stations

Designed for installations requiring a limited number of units, the Direct-A-Call interoffice telephone system can have from two to five telephones. It operates from a standard electrical outlet. Telephones can be used either on top of, or mounted on the side of the desk without alteration. System can be installed by the purchaser. Flat wire which connects the units can be run under carpets or glued to walls, desks and baseboards. Four pushbuttons on each phone buzz each of the other four stations separately. Made by **Connecticut Telephone & Electric Corp.**, 95 Britannia St., Meriden, Conn.

▲ For more details circle **NED-129 H3** on enclosed inquiry slip ▲

DO YOU KNOW? A complete manufacturing service in the field of electronics, including design, engineering, assembly, testing and packaging is being offered. Facilities of plant are available for wiring, soldering, phasing and riveting. Complete equipment or components are being produced on both prime and sub-contract bases. Personnel is composed of Paraplegics and other physically disabled veterans and plant has been specially designed to accommodate wheelchairs and is equipped with proper height machines, benches and working facilities for these workmen. Details of facilities and available services can be obtained from Paraplegics Mfg. Co., 10068 Franklin Ave., Franklin Park, Ill.

▲ For more details circle **NED-130 H3** on enclosed inquiry slip ▲

IT'S A CINCH!

TO SHARPEN SMALL DRILLS

Black Diamond PRECISION *DRILL GRINDER*

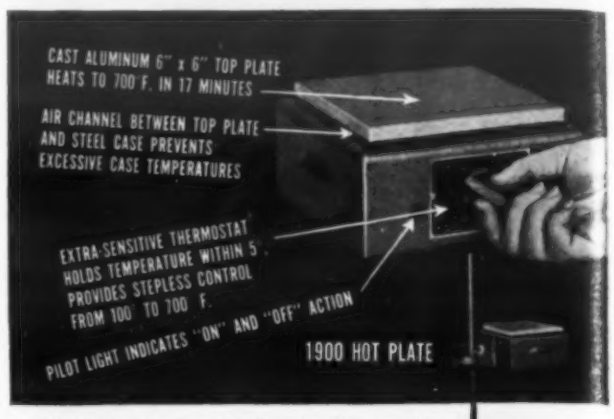
✓ ONLY drill grinder that mechanically positions drill for grinding!
✓ ONLY drill grinder that grinds BOTH LIPS IN ONE OPERATION!
✓ ANYONE can grind a drill expertly on a Black Diamond No guesswork—just position the drill, grind and you have a perfect point!

BLACK DIAMOND SAW AND MACHINE WORKS, INC.
NATICK, MASSACHUSETTS

▲ For more details circle **NED-131 H3** on enclosed inquiry slip ▲

VERSATILE, HANDY HOT PLATE

for both exacting requirements and general heating in Laboratories and Plants



You'll find this the ideal unit for a wide variety of critical and routine laboratory uses. Wide temperature range, exceptionally close control—less than 5° F variation. Completely variable control over full temperature range. Compact, convenient — plugs into 110 V., 50/60 Cy. Only $19.75. Write for literature and nearest dealer's name.

TEMCO HOT PLATES & FURNACES

THERMO ELECTRIC MFG. CO., 484 HUFF ST., DUBUQUE, IOWA

▲ For more details circle **NED-132 H3** on enclosed inquiry slip ▲

PAGE FENCE *-Since 1883*

• AMERICA'S FIRST WIRE FENCE •

Don't **blame** yourself for costly loss or property damage caused by lack of property protection. Install sturdy Page Chain Link Fence. It has been providing security against possible disruption of business, vandalism, or many other losses or injuries for more than 60 years. Page Fence is available in heavily galvanized Copper-Bearing Steel, Stainless Steel or corrosion-resisting Aluminum. NOW is the time to consult the skilled Page Fence erecting firm nearest you. For name and address and helpful illustrated fence data . . .

Write *to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, New York or San Francisco.*

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

▲ For more details circle **NED-133 H3** on enclosed inquiry slip ▲

for the best in TEFLON*

depend on

JOHN CRANE

engineering leadership and facilities

**DuPont trade-mark for tetrafluoroethylene resin*

When you use John Crane Teflon products you get *all* the advantages of this remarkable material—because you get the finest in fabrication "know-how" and quality.

"John Crane" fabricates Teflon for countless applications, including rods, tubing, tape, sheets, gaskets, bellows, washers, insulators, electrical parts, valve discs, "C-V" Rings, braided packings, coverings for dough sheeting rolls and heat sealing jaws, and a wide variety of other forms. Our engineers are ready to work with and assist you in your particular needs or problems.

Let us know your requirements. Send for our 12-page illustrated catalog. Crane Packing Co., 1811 Cuyler Ave., Chicago 13, Illinois.

JOHN CRANE CRANE PACKING COMPANY

▲ For more details circle **NED-134 H3** on enclosed inquiry slip ▲

Have you a temperature control problem from -20°F to 550°F?

What's your temperature control problem . . . high or low limit, fan control, temperature control . . . on boilers, clothes dryers, unit and space heaters, refrigeration and electronic equipment . . . Klixon Thermo-Snap Controls are now meeting the requirements for these and other uses in military and civilian products.

The advantage of Klixon Controls is the Spencer snap-acting thermostatic disc which always makes a quick, clean break or a sure, solid make no matter how often it operates. The Spencer disc is snap-acting, it is not affected by shock, vibration, motion or high altitude no matter in what position it is mounted.

Klixon Thermo-Snap Controls, hermetically sealed and open are available in a wide variety of operating temperature ranges. Write for further information.

SPENCER THERMOSTAT
Division of Metals & Controls Corp.
1908 FOREST STREET, ATTLEBORO, MASS.
KLIXON

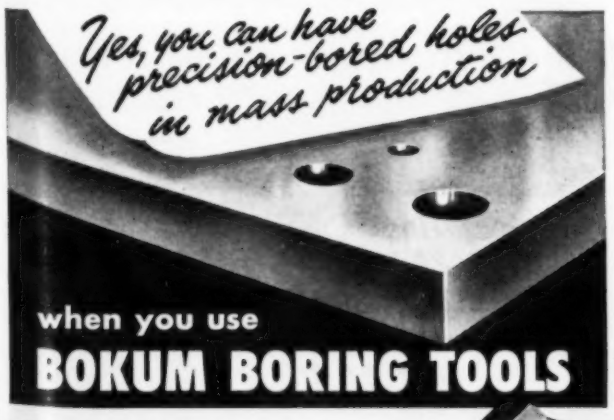
▲ For more details circle NED-135 H3 on enclosed inquiry slip ▲

WATSON-STILLMAN
HYDRAULIC POWER TOOLS FOR INDUSTRY

Send for your copy of Bulletin A-5 . . . It's Free.

WATSON-STILLMAN FITTINGS DIVISION
H. K. PORTER COMPANY, INC.
Roselle, New Jersey

▲ For more details circle NED-136 H3 on enclosed inquiry slip ▲

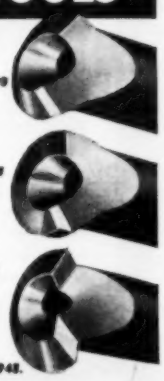


when you use
BOKUM BORING TOOLS

The design of Bokum Boring Tools is based on a mathematical formula which guarantees the correct cutting and clearance angles anywhere around the periphery of the cutting head.

If you're scrapping too much work because of imperfect holes; or if you're discarding half the potential life of your tools, try Bokum Boring Tools. You'll suffer less waste and enjoy more profit.

For maximum life of Bokum Tools, we recommend Bokum special Resharpening Fixtures.



Send for the catalog that interests you:
High speed tools No. 1139-6.
Carbide-tipped tools No. 398-6.
Solid carbide for deep hole boring No. 948.

BOKUM TOOL CO.
SINGLE POINT BORING TOOLS—INTERNAL THREADING, BOTTOMING AND FACING TOOLS—CARBIDE TIPPED TOOLS
DEPT. T • 14775 WILDEMERE AVE. • DETROIT 21, MICH.

▲ For more details circle NED-137 H3 on enclosed inquiry slip ▲

FORK TRUCK LOADING SCOOP picks up and dumps loose materials

A fork lift truck can be converted into a front-end loader in the 30 seconds required to attach this end loading scoop to truck's auxiliary lifting mast. Scoop can be used to pick up, transfer and dump loose materials like sand, coke, turnings, cullet or stampings. Dumping can be done at any point from few inches to full lift of truck. In operation, driver partially raises auxiliary mast to lower scoop, digs into pile of material, then lowers auxiliary lift. Downward force transferred through connecting arms lowers scoop back and raises its edge until completely righted. Made by **Union Metal Mfg. Co.,** Dept. NE, Canton 5, O.

▲ For more details circle NED-138 H3 on enclosed inquiry slip ▲

PENCIL-TYPE GRINDER develops speeds up to 110,000 rpm

Operating on principle of opposed spirals, which run full length of barrel and rotor, this air driven pencil type grinder develops speeds up to 110,000 rpm. It functions on pressures of 50 psi or more and weighs only 4 oz. Because of its high speed, tool is particularly adapted to carbide burrs. Only moving parts are New Departure rotor and two ball bearings which can be quickly replaced if necessary. Exhaust air from grinder comes out front end, constantly blowing dust away from work. Grinder is sold with chuck wrench, control valve, air filter and 6-ft air hose. Made by **Nu-Jett Products,** Dept. N-7, 1335 Michigan Ave. N. E., Grand Rapids, Mich.

▲ For more details circle NED-139 H3 on enclosed inquiry slip ▲

DO YOU KNOW? Actual samples of Varglas Silicone, Permafil, Varflo, Litewall, varnished, nonfraying and cotton tubing and sleeving as well as Syntholvar extruded tubing are contained in data-packed 8-page folder on this complete line of electrical insulation products. Sizes and types for every purpose are covered as well as complete range of insulation classes and NEMA grades. For your copy, just drop a line to Varflex Corp., Dept. N, 320 Jay St., Rome, N. Y.

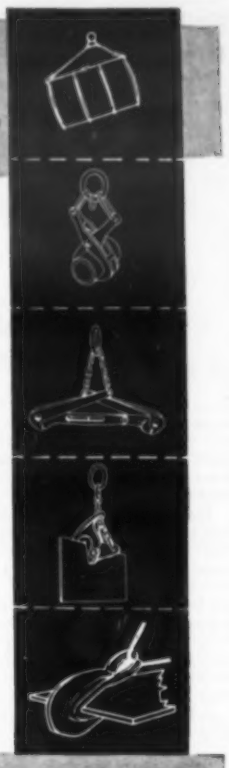
▲ For more details circle NED-140 H3 on enclosed inquiry slip ▲

Automatically
ADJUSTS TO COIL SIZE
Seven standard models available to handle coils from 1" to 48" wide.
Export Dept.: 306 W. Washington Blvd., Chicago 6, Ill.

DIXON *Automatic Tool, Inc.*
2310 23rd Ave. • ROCKFORD, ILLINOIS

▲ For more details circle NED-141 H3 on enclosed inquiry slip ▲

PICK 'EM UP *Faster . . Easier*



DOWNS SAFETY GRABS ...GRIP ANYTHING!

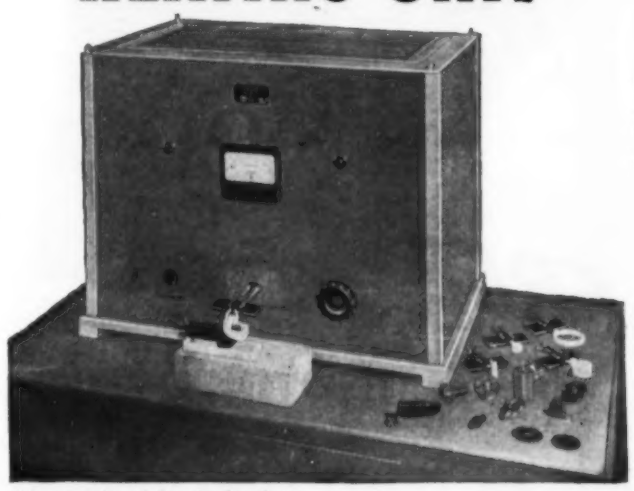
Yes we said anything—odd shapes, round, oblong, square or even loose objects such as bags or bundles. Best of all you save money on your handling problems while protecting employees.

Downs Safety Grabs are engineered to provide a load safety factor greater than rated capacity plus a Bulldog grip that won't let go until you release the load. There's a Downs hook, grip, tong or sling to fit every handling problem. Write for free illustrated catalog 200 today!

DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS
540 W. VERNON AVENUE • LOS ANGELES 37, CALIF.

▲ For more details circle NED-142 H3 on enclosed inquiry slip ▲

Lepel *presents*
A *Low Cost* PORTABLE HIGH FREQUENCY *Induction* HEATING UNIT



This versatile unit is priced so low that every shop may now take advantage of modern induction heating techniques to improve quality and to increase production. Its simplicity of operation eliminates the need for skilled personnel.

The Lepel Model 2 KW will meet the requirements of machine shops, toolrooms, research laboratories and educational institutions. It is especially suitable for hardening, brazing and soldering small parts of either ferrous or non-ferrous metals.

Complete unit with line connection and load coil **$870.** *f. o. b. factory*

- **SMALL AND COMPACT** Conveniently operated on bench or table—no mounting necessary.
- **ECONOMICAL OPERATION** No special power installation required. Operates on 110 volts, 60 or 50 cycle line at unity power factor.
- **FULLY GUARANTEED** Guaranteed for continuous duty cycle and stated performance.

WILL HEAT TO 1500° F.

1/4" steel rod 1" length in approx.	1 second
1/4" " " " " "	3 seconds
1/2" " " " " "	15 seconds
1" " " " " "	60 seconds

Will melt 4 ounces of brass or steel in 4 minutes.
Equally well suited for heating of non-ferrous metals.

All Lepel equipment is certified to comply with the requirements of the Federal Communications Commission.

LEPEL HIGH FREQUENCY LABORATORIES, INC.
55th STREET and 37th AVENUE, WOODSIDE 77, NEW YORK CITY, N. Y.

▲ For more details circle NED-143 H3 on enclosed inquiry slip ▲

BREEZE Job-Engineered BELLOWS

ANOTHER BREEZE MARK PRODUCT

...Give LASTING PROTECTION Where Ordinary Bellows Fail

Breeze welded diaphragm bellows meet the operating life cycle of any equipment in which they are used *because every Breeze bellows design is individually engineered and built for the job.*

Breeze has no "stock bellows," but if you have a vibration problem in ducts, large or small, or want permanently sealed valve enclosures in any type of piping system, or need bellows for torque transmission or other uses, Breeze experience can quickly provide the answer . . . and production can meet your requirements.

A Breeze bellows is dependable because each diaphragm is designed to work well within its elastic limit. This is accomplished by thorough analysis of each application and careful design of the bellows to withstand all requirements. "Job engineering" each individual type eliminates makeshifts, assures efficient performance.

Breeze bellows are made in stainless steel, inconel, monel, nickel, steel, or other weldable alloys.

Feel free to consult us without obligation on your existing bellows requirements, or any other project where reliable welded diaphragm type bellows might solve a design problem.

BREEZE CORPORATIONS, INC.
41-S. Sixth St., Newark 17, N. J.

OTHER BREEZE PRODUCTS: ACTUATORS · RADIO SHIELDING · AERO-SEAL HOSE CLAMPS

▲ For more details circle **NED-144 H3** on enclosed inquiry slip ▲

YOU CAN BE SURE.. IF IT'S Westinghouse

FREE to D-C motor users

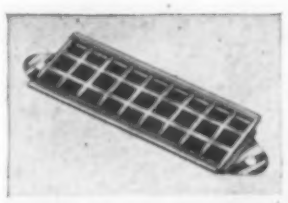
HERE ARE TWENTY PAGES OF FACTS ON THE LIFE-LINE SK D-C MOTOR. THIS BOOK SHOWS WHY AND HOW NEW DEPENDABILITY HAS BEEN ADDED TO THE WELL-KNOWN SK . . . INCLUDES INFORMATION ON CONSTRUCTION, MOUNTING, TYPES OF ENCLOSURES, PERMISSIBLE MOTORS.

GET YOUR COPY FREE! Simply mail a penny post card asking for a copy of Life-Line SK D-C Motor Booklet, B-4595. Address: Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.
J-21567

Westinghouse Life-Line D-C Motors

▲ For more details circle **NED-145 H3** on enclosed inquiry slip ▲

STATIC REMOVER for fixed or handle mounting



Staticmaster utility static remover consists of a strip of Polonium in a stainless steel housing. Polonium is an alpha emitter, and when brought in close proximity to any object, it causes all static electricity present to become neutralized. Tips on housing are for mounting in a fixed position or for placing on a handle or rod for use as a wand. Unit is 2⅜ in. long without tips, weighs 11 grams and made of type 430 stainless steel. Made by **Nuclear Products Co.**, Dept. 25, 10173 E. Rush St., El Monte, Calif.

▲ For more details circle **NED-146 H3** on enclosed inquiry slip ▲

AIR SNAP GAGE direct reading to nearest 0.0005-in.

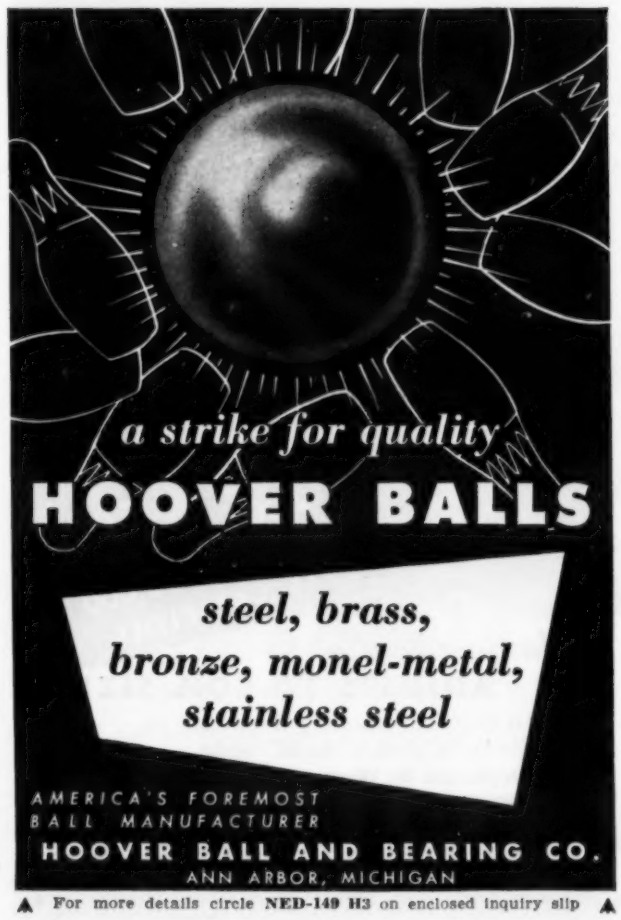
Covering a capacity from 0 to 5 in. and giving direct readings sensitive to 0.0005-in., model 2000P contact type air snap gage is made in five sizes. Workpiece is positioned directly on the tungsten carbide anvils. Air jet does not contact the work, but instead is located in the anvil assembly. Large overtravel protects gage from jamming from oversized parts and an insulating handle eliminates heat travel from the operator's hand. Gage is very thin, and can easily measure between narrow shoulders. Made by **Federal Products Corp.**, 1118NR1 Eddy St., Providence 1, R. I.

▲ For more details circle **NED-147 H3** on enclosed inquiry slip ▲

BELT SPLICER for round leather belting

Designed for joining ends of round leather belting, this tool permits the tapering and cementing together of the ends in less than 2 minutes. Upper illustration shows how 2-in. taper is made by trimming the belt with razor blade. Lower view shows belt ready for cementing. One of the clamps is shown before being applied. Splicer is available for 3/16-in. round belting only. Made by **Louis Levin & Son, Inc.**, Dept. ND, 728 E. Pico Blvd., Los Angeles 21, Calif.

▲ For more details circle **NED-148 H3** on enclosed inquiry slip ▲



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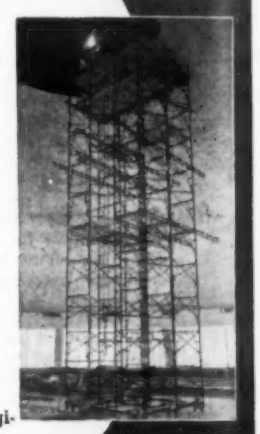
Air Compressors: HOW TO SELECT THE CORRECT SIZE AND TYPE TO MEET YOUR SPECIFIC REQUIREMENTS

Available without charge from:
Quincy Compressor Co.
DEPT. NE-31, QUINCY, ILLINOIS

This up-to-date 12 page book provides detail charts, formulas and factual data essential to accurate selection of Air Compressors for specific jobs. When you know your actual compressed air requirements and estimated future needs the job is an easy one. This book also contains valuable installation and maintenance instructions. It has been made available by the Quincy Compressor Co., manufacturers of a complete line of air and water cooled compressors ranging in size from 1 to 90 c.f.m. Write Dept. NE-853, Quincy, Illinois. *Advt.*

▲ For more details circle **NED-150 H3** on enclosed inquiry slip ▲

COST CUTTING BECOMES SIMPLE ARITHMETIC WITH ADVANCE SCAFFOLDING



The ability to make money is built into ADVANCE tubular steel scaffolding. Each feature — self-contained, simple to operate Cam Locks . . . trigger action panel attaching Stack Locks — is employed so as to assure user-profit. Unequaled acceptance and repeat rentals by building management and maintenance men prove that ADVANCE scaffolding is best for any construction and maintenance problem.

Are you getting in on the simple arithmetic that spells savings in dollars for scaffolding users? ADVANCE can help you get started!

Write direct for free literature, engineering and specification data.

BEAVER ADVANCE
ADVANCE SCAFFOLD DIVISION
Beaver Art Metal Corp., Ellwood City 5, Pa.

▲ For more details circle **NED-151 H3** on enclosed inquiry slip ▲

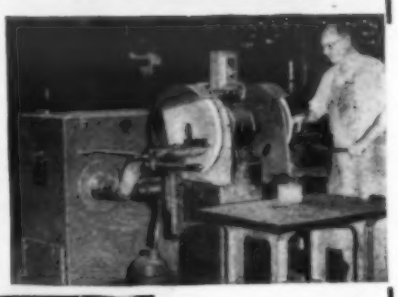
an ACCO product — ACCO Registered DUALOC SLINGS

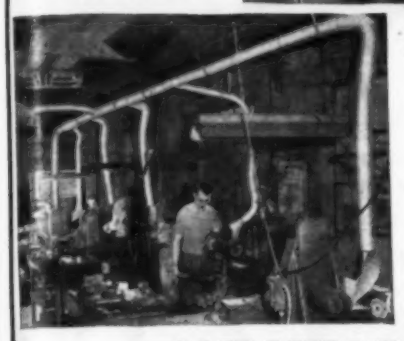
▲ For more details circle **NED-152 H3** on enclosed inquiry slip ▲

STOP DUST
INSTANTLY WITH **DUSTKOP**

200 cfm to 10,000 cfm standard pre-tested units available in stock

- LOW COST
- IMMEDIATE INSTALLATION
- SAVES HEAT
- PORTABLE





2405 ◀ cfm 1400▲ cfm

DUSTKOP

WRITE FOR
- RECOMMENDATION about your dust problem. No obligation
- CATALOG 605-2

AGET-DETROIT CO.
202 S. Main St. Ann Arbor, Mich.

▲ For more details circle NED-153 H3 on enclosed inquiry slip ▲

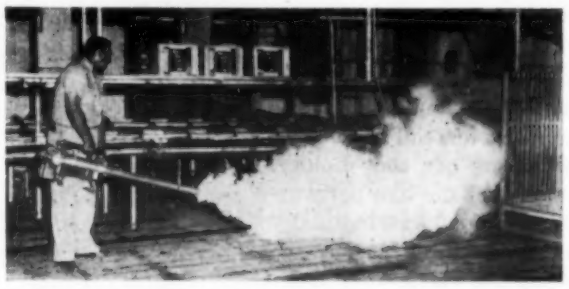
FLEXIBLE GRINDING WHEEL will not dig into work

Consisting of hundreds of individual abrasive cloth leaves sealed to a hard core, Grind-O-Flex flexible wheel is designed for light grinding and metal finishing operations. As it rotates, it presents a continuous abrasive surface which smooths and removes flaws without any danger of digging into the work. Wheel is 6½-in. in diameter by 1-in. wide and is available in a variety of grits from coarse to very fine. Mounting arbor adapts it to any standard plain or threaded shaft or for chucking. Flanges are also provided. A 1/6-hp motor is sufficient to power the wheel for normal purposes. Made by **Merit Products, Inc.,** 4025 Irving Pl., Culver City, Calif.

▲ For more details circle NED-156 H3 on enclosed inquiry slip ▲

BUG KILLER uses buzz-bomb pulse-jet principle

Utilizing the pulse-jet principle of a German V-1 buzz-bomb, Swingfire bug killer atomizes a standard pesticide or fumigant into a dense clinging fog fatal



to insect or bacterial life. The insecticide is introduced into a pulse-jet exhaust stream at the end of a rifle-like tube. On hitting the atmosphere, condensation occurs and a fog consisting of millions of poison-charged droplets is formed. The unit weighs approximately 30 lb, and can easily be carried by one person by a shoulder strap. Distributed by **Devenco Inc.,** Dept. A, 150 Broadway, New York 38, N. Y.

▲ For more details circle NED-157 H3 on enclosed inquiry slip ▲

DO YOU KNOW? Railroading in all its glory is portrayed in new free-loan sound-color 16-mm motion picture "225,000-Mile Proving Ground." The 19-minute story takes viewer behind the scenes of America's vast railroad network and reveals the inside story of the spectacular changeover from steam to diesel power. Also shown are push-button freight yards, centralized traffic control and other innovations. Send request for film to Princeton Film Center, Inc., Princeton, N. J.

▲ For more details circle NED-158 H3 on enclosed inquiry slip ▲

ENAMELSTRIP
STEEL · ALUMINUM · BRASS · PRE-FINISHED COLOR COIL

assures a **perfect finish before fabricating**

You can easily cut production time and cost with Enamelstrip, the continuous-feed, pre-colored metal coil. Leading manufacturers of metal products are using it with outstanding results in a wide variety of items. Enamelstrip's exclusive, flexible finish withstands the stresses of drawing, bending and forming without cracking or peeling. Many companies have entirely eliminated their finishing departments! Any metal in any finish will be coated and slit to your own specifications.

Write TODAY for detailed color bulletin.

THE COATED COIL CORPORATION
507 West 30th Street, New York 1 • LOngacre 5-3161

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FOR DEFENSE INDUSTRY MACHINIST WORKMAN FARMER

1ST IN METAL TOOL BOXES
CASES—CHESTS—CABINETS

Here are the world's finest metal boxes. They're better constructed—better looking. Known for their fine materials—workmanship—attractive design. These boxes outlook—outlast—outsell competition. Write for FREE book, including complete information.

WATERLOO METAL BOXES AND CHESTS

Waterloo
VALVE SPRING COMPRESSOR CO.
WATERLOO, IOWA

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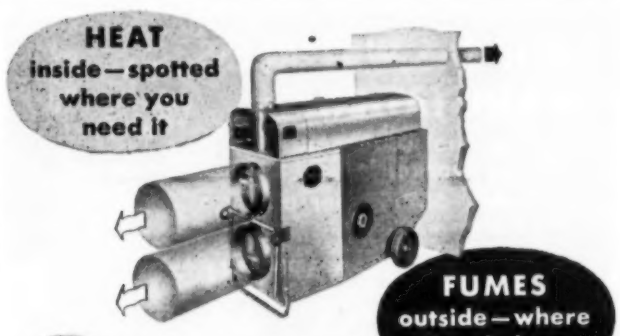

HERMAN NELSON
PORTABLE AIR HEATERS

Get all the FACTS about all Portable Heaters. Write to American Air Filter Company, Inc., Dept. 111, Moline, Illinois.

Why take chances with temporary heat you can't always trust? Put Herman Nelson Portable Air Heaters on the job and have complete safety assured!

Herman Nelson heaters have vented, sealed flame heat and automatic safety controls. There's no danger of fire, no danger from carbon monoxide or other fumes, no danger of job-ruining smoke or soot. Combustion products are carried outside the working area—and clean, warm air is directed inside to any spot by flexible canvas ducts.

Be sure you get safety, dependability, performance—be sure you get Herman Nelson, the only complete line of completely safe Portable Air Heaters.

Herman Nelson Portable Air Heaters, another product of American Air Filter Company, Inc., Moline, Illinois.

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NOT THIS... BUT THIS

Now...for a good shower

—deep freeze!

—scalding hot!

BANISH "BOOBY TRAP" SHOWERS

Use POWERS THERMOSTATIC Water Mixers

Real comfort and safety. No waste of time or hot and cold water.

POWERS THERMOSTATIC WATER MIXERS

—eliminate shower accidents

They are completely automatic, hold shower temperature wherever you want it regardless of **pressure** or **temperature** changes in water supply lines. Failure of cold water instantly shuts off the shower.

Tests prove Powers is safest shower regulator made for factories, schools, hospitals, hotels and clubs. Thousands now in use.

Used for Many Industrial Processes. Users report control within ½° F. Temperature Ranges: 65-115° F., 60-125° F., 75-175° F. Write for Bulletin 365. (b13)

THE POWERS REGULATOR CO.
Skokie, Ill. • Offices in Over 50 Cities • Est. 1891

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FOR MATERIAL HANDLING—
more and more—the swing is to wide-base pneumatic tires

GENERAL
INDUSTRIAL PNEUMATIC TIRES

More Designers are specifying wide-base General Pneumatics. They know Generals add these extra selling points to handling equipment.

SAVE TIME · MONEY · LABOR

- MORE LOAD CAPACITY AT LOW OR HIGH SPEEDS
- CUSHION EQUIPMENT AND LOADS REDUCING BREAKAGE AND SPILLAGE
- SAVE HIGH COST FLOORS AND FLOOR SURFACES
- SLOW, EVEN WEAR FOR LONG SERVICE
- HIGH FLOTATION FOR EASIER ROLLING OVER SOFT GROUND
- ROLLS EASIER, SMOOTHER OVER ALL SURFACES

Available separately or in assemblies of Tires, Tubes and Wheels. Size O.D. 8" to 27"—200 to 4000 lbs. cap. for low or high speeds.

THE GENERAL TIRE

Rigid CASTER FORKS *Swivel*

Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

SEND FOR CATALOG ... DEPT. 4

THE GENERAL TIRE & RUBBER CO. AKRON, O.

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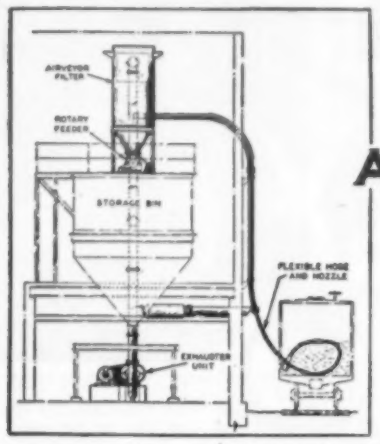

Airveyor handling pebble lime in a large steel mill, unloading from cars at rate of 7½ tons an hour.

AIRVEYOR keeps your handling costs ...down

Conveying dry, pulverized and granular materials such as lime, soda ash, flour, sugar, clays, borax, cellulose acetate, magnesium, and numerous other materials with the Airveyor offers many definite savings you cannot afford to overlook ... lower cost of bulk over bagged materials ... lower cost of unloading, storing, and in-plant rehandling of such materials. These advantages are yours, plus clean and dustless operation, minimum labor and convenience in reclaiming from storage for delivery to process ... with the Airveyor.

If your problem involves bulk handling of dry pulverized and granular materials, call on Fuller's 26 years of specialized experience. You can save time and money by calling Fuller ... get in touch with us, while your plans are in the formative stage.

Write for Bulletin G-1, illustrating and describing the four basic types of conveying systems manufactured by us.

A-169 A
2030

Fuller FULLER COMPANY, Catasauqua, Pa.
Branch offices: Chicago—San Francisco—Seattle
Los Angeles — Birmingham

▲ For more details circle **NED-162 H3** on enclosed inquiry slip ▲

Save 4 ways

WITH **E-Z CODE WIRE MARKERS**

★ IDENTIFY WIRES QUICKLY
★ ELIMINATE GUESSWORK
★ END COSTLY ERRORS
★ SAVE MAN HOURS

NOW AVAILABLE FOR SMALL GAGE WIRES...

Especially designed for use on test equipment and electronic components, E-Z Codes' *new* ¾" long markers fill industry's need for a *practical* coding marker for small gage wire.

Pressure sensitive, E-Z CODE large or small gage markers are easy to use, quick to apply—have long life and are positive sticking. E-Z CODES are available in over 1000 codes, including A.S.A. and NEMA specifications.

Exclusive Speed Tabs, let you remove any code you need—unused codes remain fully protected regardless of how often handled. There is no spoilage—use every marker.

TYPICAL APPLICATIONS—Plant managers find E-Z CODES speed production, eliminate errors and cut assembly time. Electricians save time by marking wires, terminals and circuits with E-Z CODES.

Write today for free samples and specifications

WESTLINE PRODUCTS DIVISION
WESTERN LITHOGRAPH CO.
600 East Second Street, Los Angeles 54, California

▲ For more details circle **NED-163 H3** on enclosed inquiry slip ▲

SIMPLIFY YOUR MATERIALS HANDLING

SEND FOR FREE CATALOG OF FIBRE CONTAINERS

Spaulding Fibre Receptacles make storage and handling easier. They're tough, lightweight, shock-proof, resistant to impact and abrasion, will not splinter or corrode. Boxes, barrels, trays and trucks of all sizes, types and weights. Mail coupon today.

Spaulding

SPAULDING FIBRE COMPANY, INC., Dover, N. H.

Please send me your catalog on Spaulding's complete line of Fibre receptacles.

Name _____
Firm _____
Address _____
City _____ Zone _____ State _____

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FORCE FEED LUBRICATORS for service up to 30,000 psi

For such high pressure applications as compressor cylinder and bearing lubrication, force feed lubricators are designed for service up to 30,000 lb. Two models

are offered. The HP20 has a pump assembly with a 5/16-in. diameter plunger and will pump 6½ drops of SAE 40 oil per stroke against 20,000 psig. The HP30 has a ¼-in. diameter plunger and pumps 4 drops of SAE 40 oil against 30,000 psig. Units are rigidly mounted and pumping rate is controlled by a positive fingertip adjustment. Steam or electric heaters are easily incorporated. Made by **Frontier Industries Inc.**, Manzel Div., 302 Babcock St., Buffalo 10, N. Y.

▲ For more details circle **NED-165 H3** on enclosed inquiry slip ▲

HOLE PUNCHING UNITS mount on lower bed of press

Mounting on the lower bed of a press, Toolset hole punching and notching units feature a free-floating punch and guide which transmit stripping loads to the work instead of the upper arm of the holder. Punch and die are permanently and automatically aligned. Units are available in six widths with from 4 to 16-in. throat depths, and will accommodate round, square, rectangular and special shaped punches. Set-ups can be made in any desired pattern by bolting the units on a mounting template or T-slotted plate. No special tools are needed. Made by **General Riveters, Inc.**, Toolset Div., Hertel at Elmwood Ave., Buffalo 7, N. Y.

▲ For more details circle **NED-166 H3** on enclosed inquiry slip ▲

DO YOU KNOW? One civic minded company is doing something about reducing the rising toll of highway tragedies. In an all-out effort to promote safety on the nations highways and to lessen the traffic on road-jammed weekends, this company has curtailed all inbound and outbound truck traffic between its various plants, to customers and from suppliers from midnight Friday to midnight Sunday. Only in extreme emergencies is this rule lifted. Plan inaugurated by Timken Roller Bearing Co., Dept. NED, Canton 6, O.

▲ For more details circle **NED-167 H3** on enclosed inquiry slip ▲

NEW SBS WATERLESS WASHSTATION*

"brings the washroom to the worker"*
for only $52.50 per unit
(F.O.B. Saginaw, Mich.
Towel Dispensers not included)

SBS Waterless Washstations are complete units for hand washing on the job. Because they dispense SBS-30 Waterless Skin Cleanser, these Washstations require no plumbing . . . SBS-30 is simply rubbed on the hands and wiped off along with all the soil.

SBS Waterless Washstations —

- **In Trouble Spots** — Avoids workers use of irritating, harmful solvents. Quickly and safely removes tars, greases, paints, varnishes and other hard-to-remove soils.
- **On the Production Line** — Cuts to a minimum costly interruptions for hand washing.
- **Actually Earn You Money** — By eliminating one unnecessary trip per day for hand washing by only 10 men, you can save up to $720 annually.

Fill out and mail the coupon below for complete information about SBS Waterless Washstations and our 30-day no-risk money back trial offer.

**Trademark*

92-A

SUGAR BEET PRODUCTS CO., Dept. 7F, SAGINAW, MICHIGAN
Sirs: Please send me full information about the new SBS Waterless Washstation and your 30 day no-risk money back trial offer.
NAME _____
TITLE _____
COMPANY _____
CITY _____ ZONE _____ STATE _____

SUGAR BEET PRODUCTS CO. • Saginaw, Mich.
Chemical By-Products Division

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APPLIANCES ...on the Move

ALVEY Conveyors

take the product through the plant — from one operation to another — faster and easier. An Alvey Engineer will show you how conveyors can reduce your handling costs. Write today.

ALVEY CONVEYOR MFG. CO.
9259 Olive Street Road, St. Louis 24, Mo.

ALVEY
BRANCH OFFICES IN PRINCIPAL CITIES

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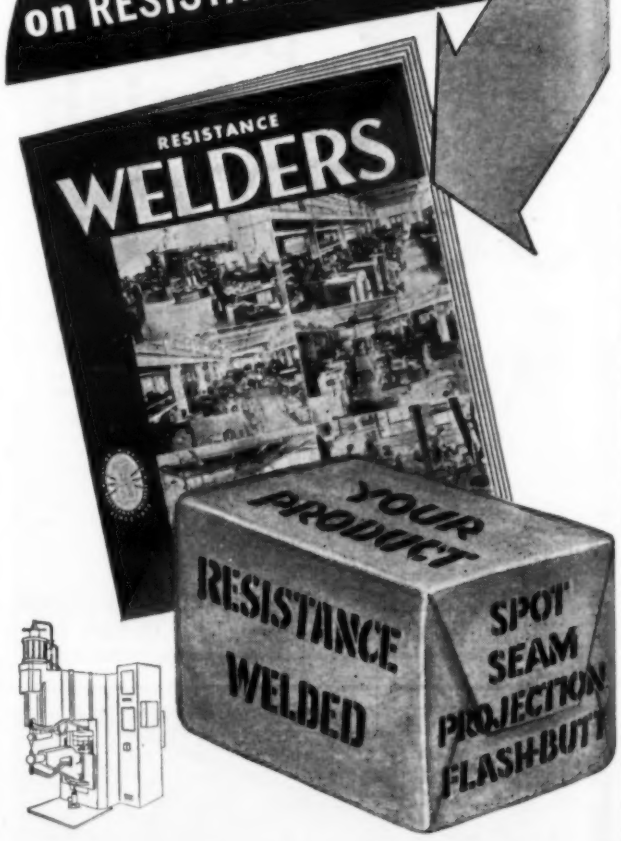
Practical Information on RESISTANCE WELDING



Taylor-Winfield has specific booklets on all phases of resistance welding — spot, projection, seam and flash-butt. The bulletins contain such practical information as: rate of welding; applications; electrical calculations; styles and specifications on welding; classes of welds for different kinds of metal; and, much other specific data. Send your query to Taylor-Winfield and state what kind of information you want. T-W will send you specific bulletins promptly.

Sales and Service — *Resistance Welders Since 1898*

CHARLOTTE
CHATTANOOGA
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S. PASADENA
ST. LOUIS • STAMFORD
WASHINGTON
DUNDAS, ONTARIO

TAYLOR WINFIELD
RESISTANCE WELDERS

THE TAYLOR-WINFIELD CORPORATION • WARREN, OHIO

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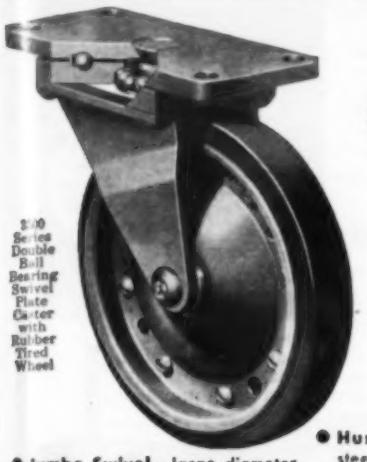
Faultless ENGINEERED TRUCK CASTERS CUT HANDLING COSTS



NEW!
MAN-SAVER AND EXPEDITER for INDUSTRY

Here's the answer to your need for *extra* mobility . . . *extra* load capacity . . . *extra* output from less manpower. It's the ideal caster for quickly and quietly moving trucks or other mobile equipment and there's a clear profit from the *extra* mileage they give. Ask your supplier for Series 3300.

- **Jumbo Swivel**—large diameter ball races. Two full rows of balls rolling around hardened raceways formed in heavy steel plates.
- **Husky Horn**—heavy gauge steel sides and top plate riveted into single unit of surplus strength.
- **Oversize King-Pin**—machined to precision fit.

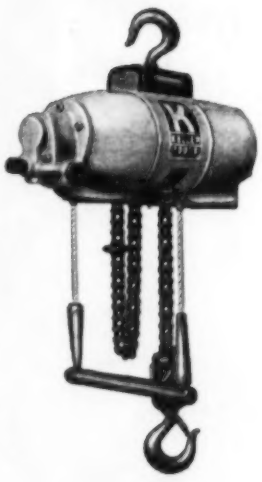
FAULTLESS CASTER CORPORATION
Dept.NE-8, Evansville 7, Indiana
Branches in Principal Cities—Canada Factory: Stratford, Ont.

For more details circle NED-171 H3 on enclosed inquiry slip

Here is the most accurately controllable hoist ever devised

THE HOIST WITH fingertip control

KELLER Air Hoist



It is operated by an air valve that you can "crack" as little or as much as you like—from the barest creep to 17 fpm full speed, or any speed between.

Positive displacement piston-type air motors assure positive movement up or down. Centrifugal brake holds load immovable in any position.

- Can't Burn Out, even when stalled
- Light Weight—1,000 lb air hoist weighs only 30 lb
- Low Maintenance
- Continuous Duty—can be used hours (or days) continuously without shortening motor life

Send for illustrated descriptive bulletin and detailed information

Keller Tool Company
GRAND HAVEN, MICHIGAN

For more details circle NED-172 H3 on enclosed inquiry slip

SHENANGO Centrifugal CASTINGS ... KEY TO SAVINGS

SHENANGO means it's right... not almost right!

1) Machined parts must be finished precisely as you specify. Shenango's modern machining facilities and skilled workmanship make this operation almost a work of art.

2) *Parts start out RIGHT, too,* because they are produced by Shenango's advanced centrifugal casting process. This assures *tougher* parts with finer, pressure-dense grain, greater tensile strength, better elongation and freedom from sand inclusions, blowholes and other hidden defects.

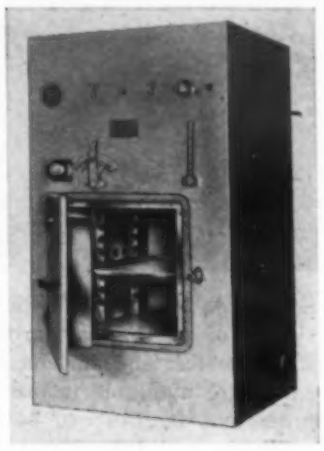
You specify the part, metal and finish and Shenango does the rest. Send for Bulletin No. 150 covering nonferrous metal parts; Bulletin No. 151 covering Meehanite Metal, Ni-Resist and special iron alloys. *Address . . .*

SHENANGO-PENN MOLD COMPANY
Centrifugal Castings Division
Dover, Ohio
Executive Offices: Pittsburgh, Pa.

SHENANGO
ALL RED BRONZES • MANGANESE BRONZES • ALUMINUM BRONZES
MONEL METAL • NI-RESIST • MEEHANITE® METAL

For more details circle NED-173 H3 on enclosed inquiry slip

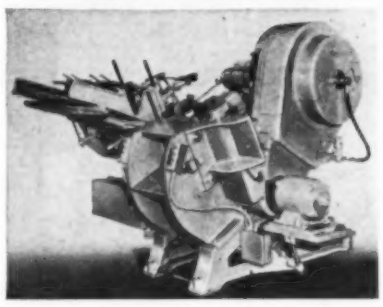
MECHANICALLY CONVECTED OVEN
table model has 35° to 180° C range



Range of 35° to 180° C with temperature differential of plus-minus ½° C is featured by table model mechanically convected oven. Interior chamber dimensions are 12 x 14 x 14 in., while exterior measures 23 x 20 x 40 in. Floor of working chamber is only 9 in. above table, and all controls are located above and out of way of chamber. Unit is constructed with either heavy gage steel exterior finished in baked gray enamel and stainless interior, or entirely of 18-8 polished stainless steel. Oven has adjustable hydraulic control thermostat and the Limistat, a thermal switch which prevents chamber temperature from exceeding control setting. Made by **Electric Hotpack Co.,** 5063 Cottman Ave., Philadelphia 35, Pa.

For more details circle NED-174 H3 on enclosed inquiry slip

LIGHT STAMPING PRESS
25-ton unit has multiple dies



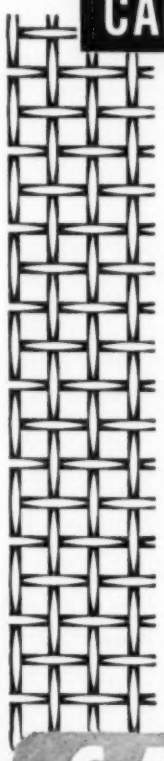
Redesigned to utilize multiple dies for greater operating speed, No. 401 strip feed press is useful for the high speed production of can ends, screw caps and other light stampings. A continuous feed stack provides for at least a 1-hour production run before reloading. Rated capacity is 25 tons. Other features include welded steel frame which maintains alignment without tie rods and Air-Flex clutch and brake mounted directly on the crankshaft. Controls requiring the use of both the operator's hands and an electrical safety circuit are built in. Announced by **Baldwin-Lima-Hamilton Corp.,** Hamilton Div., Bement St., Hamilton, O.

For more details circle NED-175 H3 on enclosed inquiry slip

DO YOU KNOW? A complete education in the elementary facts on how to use a lathe is given by a series of three sound-color motion pictures which are available for free showings. The three films are entitled: "The Metalworking Lathe," "Plain Turning" and "Grinding Cutter Bits." Showing time of each is 20 minutes. For complete details on how to get these films, write to South Bend Lathe Works, 307 E. Madison St., South Bend 22, Ind.

For more details circle NED-176 H3 on enclosed inquiry slip

CAL-WIC WIRE CLOTH



THE RIGHT WEAVE
• • • for every industrial requirement including screening, filtering, grading, cleaning and numerous other types of processing.

THE RIGHT WEIGHT
• • • precision-fabricated for long-lasting dependability and economy.

THE RIGHT METAL
• • • for highest resistance to chemical action, moisture, corrosion, abrasion and extremes of temperature.

For additional information write or phone our nearest sales office.

EAST: Wickwire Spencer Steel Division, Clinton, Mass.
WEST: The Colorado Fuel and Iron Corporation, Denver, Colorado
PACIFIC COAST: Pacific Coast Division, Oakland, California

CAL-WIC INDUSTRIAL SCREENS CFI
THE COLORADO FUEL AND IRON CORPORATION

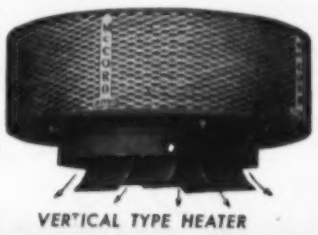
For more details circle NED-177 H3 on enclosed inquiry slip

Better Heat Distribution WITH McCORD Unit Heaters

More Heat . . . Better Distribution

HORIZONTAL TYPE HEATER

More heat, better distribution is the answer to any heating problem. McCord, because there is a model and type to meet each particular condition, will do a better heating job. Every improvement that engineers and the experience of many users could suggest is incorporated in the improved models of McCord Unit Heaters. Due to the design and careful attention to balance a new degree of quietness has been attained. The scientifically designed spiral fin tube heating surface provides maximum heat transfer capacity.



VERTICAL TYPE HEATER

McCORD CORPORATION
2580 E. Grand Blvd.
Detroit, Mich.

Specify McCORD ON YOUR NEXT JOB

For more details circle NED-178 H3 on enclosed inquiry slip

Get big truck lift... with small truck thrift...

YALE WORKSAVERS

Smaller in size...lighter in weight...lower in cost

YALE WORKSAVER ELECTRIC TRUCKS are the perfect solution where plant and warehouse facilities...or limited budgets ...had previously ruled out mechanical handling operations. YALE WORKSAVERS lift, move and stack materials over low-load flooring...unreinforced ramps and elevators...freight cars and trucks...save time, space, manpower and money. Industries of all kinds choose YALE WORKSAVERS because they know the YALE name and reputation. They count on the versatility of WORKSAVERS...to do the job better, more economically. Contact your local YALE Representative or complete the coupon for a demonstration. Ask about the complete range of attachments that makes the WORKSAVER the most versatile tool in your plant.

YALE*
MATERIALS HANDLING EQUIPMENT
*Registered in U. S. Patent Office

MAIL THIS COUPON TODAY
The YALE & TOWNE Manufacturing Co., Dept. 378
Roosevelt Blvd. and Haldeman Ave., Phila. 15, Pa.
Please have your local representative call for an appointment.
Company_____
Name_____ Title_____
Street_____ City_____ State_____
In Canada write: The Yale & Towne Mfg. Co., St. Catharines, Ontario, Canada

Gas, Electric, Diesel Lift Trucks • Worksavers • Hand Trucks
Hand and Electric Hoists • Pul-Lifts

For more details circle NED-179 H3 on enclosed inquiry slip

PREVENT THERMOMETER FOGGING

No matter how long you dunk it, you can't cloud the accuracy of a Rochester dial thermometer.

THIS SUBMERSIBLE QUALITY is important to you. It means fast, easy temperature readings . . . without any danger of a foggy crystal causing inaccuracy. Rochester dial thermometers are assembled and hermetically sealed in a special humidity-controlled "dry" room. This eliminates any possibility of condensation inside the thermometer.

ALL STAINLESS STEEL CONSTRUCTION—All outer parts (except crystal) of Rochester dial thermometers are stainless steel. What's more, the case, stem and nut are fused into a single *corrosion-resistant* unit by an exclusive Rochester welding process.

EXCLUSIVE OUTSIDE RECALIBRATION—Rochester makes the *only* industrial thermometer that can be recalibrated from outside the case. If an extremely hard blow should knock it out of adjustment, you can have it back on the job in less than a minute . . . without taking the thermometer apart or breaking the hermetic seal.

You can order Rochester thermometers from one of our specialized instrument representatives listed in Sweet's Catalog. Or write direct for full details. Rochester Manufacturing Company, Inc. 114 Rockwood St. Rochester 10, N. Y.

MILLIONS of Rochester Dial Thermometers are now delivering dependable service

Rochester
MANUFACTURING COMPANY, INC.
DIAL THERMOMETERS . GAUGES . AMMETERS

▲ For more details circle **NED-180 H3** on enclosed inquiry slip ▲

UE
TEMPERATURE PRESSURE CONTROLS

Improve YOUR PRODUCT!

More dependable, more accurate controls bring big sales results!

Type E8N
Indicating Temperature Control, ranges 300° or 600° between −150° to 600° F. calibrated adjustment and ambient compensated.

Type J40
Compact, skeleton pressure control for local mounting to control up to 250 psi in general industrial applications.

Type J96
Sensitive pressure-vacuum control for 30" hg. to 100 psi with explosion-proof housing for hazardous locations.

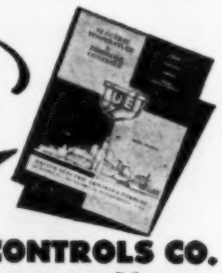
Progressive manufacturers throughout the country know the importance of having the *right* temperature or pressure control on their products. It really pays off—in product quality and in SALES. Hundreds of companies, of all types, turn to United Electric for the finest controls, to be used as original equipment on their products.

Controls are developed from United's wide line of standard models or are specially built as a result of teamwork by United Electric engineers and the manufacturer's product development group.

We can handle practically any pressure control problem between limits of 30" mercury vacuum to 1000 psi or temperature control problems between limits of −150° F. to 600° F.

Want to know more? Write for our new catalog. It shows pressure and temperature controls for marine, industrial aircraft and representative special purpose uses. And it's yours for the asking.

Write for New free Catalog...



UNITED ELECTRIC CONTROLS CO.
81-I School Street, Watertown, Mass.

▲ For more details circle **NED-181 H3** on enclosed inquiry slip ▲

VISUAL CONTROL SYSTEM
gives graphic picture of schedules

Using any desired combination of time, place and incident factors, Boardmaster visual schedule control system gives an instant picture of schedule status in production planning and related fields. Schedules are posted on a 24 x 38½-in. aluminum wall board by typing or writing on cards inserted in the board to form vertical and horizontal columns. Several sizes of cards are available in six contrasting colors so that prominent factors can be spotlighted. Smallest card available will take about 10 typewritten words, the largest up to 35. Cards are furnished in strips of six to eight inserts for easy handling and typing. Any type of schedule can be set up to meet individual requirements. Made by **Graphic Systems,** Dept. 50, 55 W. 42nd St., New York 18, N. Y.

▲ For more details circle **NED-182 H3** on enclosed inquiry slip ▲

TABLE-CABLE CONVEYOR
for use with various devices

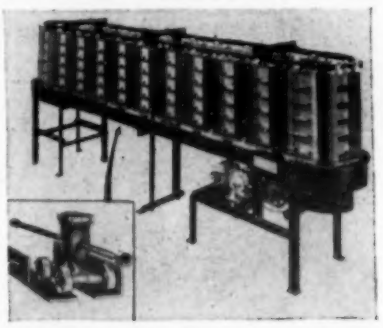


Table height power driven cable conveyor with four-wheel carriers attached to a ⅜-in. steel cable can make use of pallets, shelved trays, fixtures, rotators and other devices attached to the conveyor trolleys. It can also be attached to load bars or outrigger roller frames. Unit can be inclined to higher elevations and may be floor or ceiling mounted. Horizontal corners with various pitch diameter sheaves can be turned. Trolleys are positioned permanently by Bush-Lock bushings swaged onto the cable. Bushing makes cable splicing easy. Made by **E. W. Buschman Co.,** 4401 Clifton Ave., Cincinnati 32, O.

▲ For more details circle **NED-183 H3** on enclosed inquiry slip ▲

DO YOU KNOW? Photocopies can now be produced in any color through use of Apeco Systematic Auto-stat office photocopy machine. Use of color photocopies offers excellent means of coding business forms and orders. Machine will produce minimum of 100 copies per hour in letter or legal size. Dry color prints are delivered almost immediately. Machine merely plugs into electrical outlet. Developed by American Photocopy Equipment Co., 2855 N. Clark St., Chicago 14, Ill.

▲ For more details circle **NED-184 H3** on enclosed inquiry slip ▲

Get these facts!

ON QUICK, EASY PRODUCTION OF NYLON MAINTENANCE PARTS FROM POLYPENCO® NYLON ROD . . . STRIP . . . TUBING

These bulletins give full information on POLYPENCO nylon standard shapes. Cite examples of how to get *all* the advantages of nylon for maintenance parts by fabricating from standard shapes.

- Standard shapes (rod, strip, tubing)
- Formulation and characteristics
- Available sizes and length
- Recommended machining practice

CLIP AND MAIL COUPON NOW!

The Polymer Corporation of Penna., Reading, Penna.

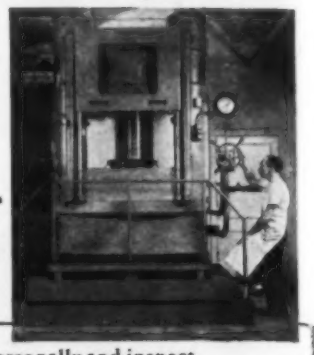
Please send full technical and fabricating data ☐
rod, strip and tubing prices ☐

NAME.....TITLE.....
COMPANY.....
ADDRESS.....
CITY.....ZONE.....STATE.....
(Please print)

▲ For more details circle **NED-185 H3** on enclosed inquiry slip ▲

Important addition
To SUMMIT-ROBERTS TOOL CO.
... a 2500 ton hobbing press

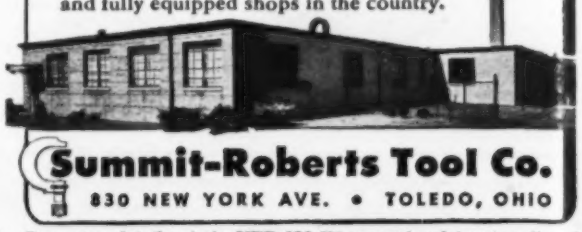
For over 20 years we have hobbed cavities in only the highest quality hobbing steel. Now, by industry demand we offer our services to cold hobb your cavities for



MOLDS for Plastics
Die casting Dies

We can make the hobbs or use yours.

Visit our plant personally and inspect our modern facilities, where you will see one of the most unusual, outstanding and fully equipped shops in the country.



Summit-Roberts Tool Co.
830 NEW YORK AVE. • TOLEDO, OHIO

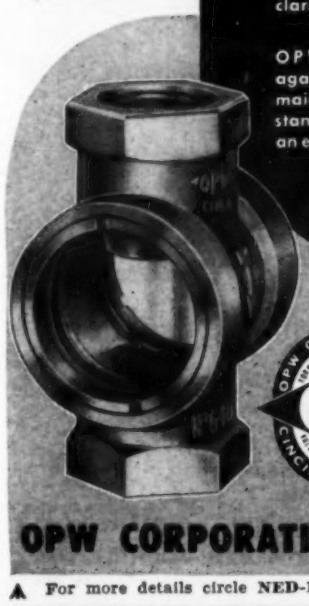
▲ For more details circle **NED-186 H3** on enclosed inquiry slip ▲

OPW visi-flo

One Look to Know!

OPW VISI-FLO sight glass indicators are a trustworthy visible means of alerting you as to rate of flow, viscosity, color of liquids, clarity, and purity of product.

OPW VISI-FLO protects you against line stoppage, helps maintain uniformity, a high standard of product quality and an even continuity of production.



Write Write for free Bulletin F-6 describing complete VISI-FLO line, from plain types to magnetic indicating types.

OPW CORPORATION CINCINNATI 25, OHIO

OPW CORPORATION 2735 Colerain Ave. Cincinnati 25, Ohio

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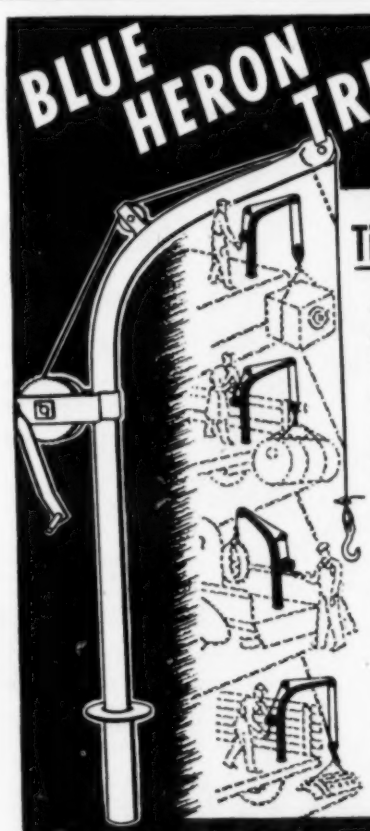
BLUE HERON TRUCK CRANE SAVES
Time Money Labor



ONE MAN can handle up to ONE TON—EASILY and SAFELY!—with a BLUE HERON TRUCK CRANE. Crane swivels through full circle; one man can lift from socket, leaving truck body clear.

Equip ALL company trucks with sockets. Then change cranes from truck to truck.

CHOOSE THE MODEL WHICH FITS YOUR REQUIREMENTS
Model O.C. 30A Cap. 500#
Model O.C. 30B Cap. 1000#
Model O.C. 30C Cap. 2000#

CAM TOOL CO., INC. 11 RANDWICK AVE. OAKLAND 11, CALIF.

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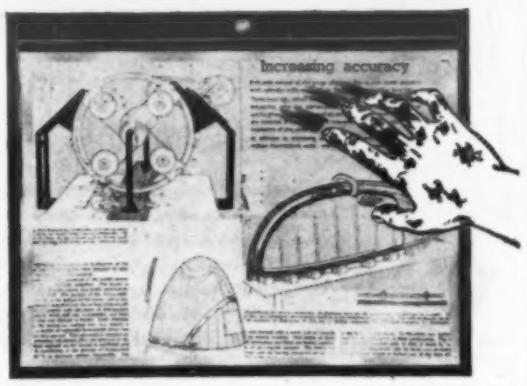
Don't take Chances..



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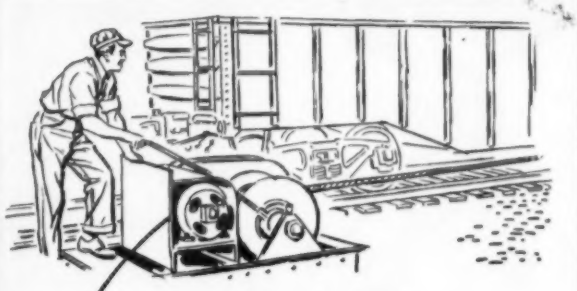
AMERICAN KLEER-VU PLASTICS, INC.

53-04G Grand Ave. Maspeth 78, N. Y.

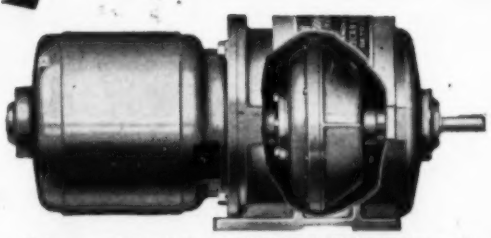
For more details circle NED-189 H3 on enclosed inquiry slip



Save with GÝROL FLUID DRIVES on CAR PULLERS

Gýrol Fluid Drive applies power evenly, giving a smooth start without shock to the gearing and cable of car pullers. A sustained pull can be applied continuously from full speed to stall. Fluid Drive, because of its inherent cushioning and overload limiting characteristics, offers maximum protection for motor, machinery, and cable. Fluid Drive, with general purpose motor and simple across-the-line starter, offers on car pullers a combination designed for saving on both installation and maintenance costs.

Advantages of American Blower Type TM Gýrol Fluid Drives



Cutaway view of Type TM Gýrol Fluid Drive unit

- Provides smooth flow of power. Shocks are absorbed in a cushion of oil. There's no metal-to-metal contact between driving and driven machinery.
- Offers by its inherent shearpin action, selective overload protection for both motor and driven machinery. Decreases machine "down" time.
- Available as a complete packaged unit suitable for either direct or belt connection to the driven machine. Minimizes alignment problems.

Free trial units are available to original equipment manufacturers

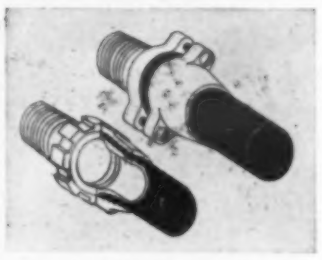
AMERICAN BLOWER

American Blower Corporation, Detroit 32, Michigan
Division of American Radiator & Standard Sanitary Corporation

Serving home and industry: AMERICAN-STANDARD • AMERICAN BLOWER CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS

For more details circle NED-190 H3 on enclosed inquiry slip

PLASTIC PIPE FITTING grips pipe inside and outside



"Barracuda" type teeth of these brass fittings for connecting plastic piping grip plastic inside and outside of pipe. Plastic cold flow property which makes nonslip jointing difficult is thus overcome. Feature is that flow through pipe is not reduced. Fittings are easily removed and can be used many times. They are offered in ½, ¾, 1, 1¼, 1½ and 2-in. sizes. Closures are available in fillister screw and spanner types. Made by **Nelson Foundry Co.**, Dept. BT-200, 6116 Oakton St., Morton Grove, Ill.

For more details circle NED-191 H3 on enclosed inquiry slip

FOLDING ALUMINUM TABLE has handle for easy carrying

Providing additional work space in a hurry, the Portility folding aluminum table is 24-in. wide and 60-in. long. It folds to 24 x 30-in. and has a handle for easy carrying. The top is reinforced to provide strong work surface. Unit weighs under 20 lb and is useful in any business or institution where additional tables may be needed from time to time. Made by **Emeco Corp.**, Hanover 2, Pa.

For more details circle NED-192 H3 on enclosed inquiry slip

RIBBON FILTER ELEMENT does not require backup support

Available for a wide variety of installations as a substitute for costlier metal edge or screen type elements, this ribbon filter element of phenolic-resin impregnated cellulose requires no special backup support. Elements are permanent type filters, simple to install, have high flow rate in either direction and are easy to clean. They are offered in diameters from ½ to 6 in. and in any required length with filtration rated at 40 microns (0.0016-in.). Made by **Bendix Aviation Corp.**, Bendix-Skinner Div., 1503 Trombly Ave., Detroit 11, Mich.

For more details circle NED-193 H3 on enclosed inquiry slip

STOP VIBRATION.....

2 WAYS WITH... **LOVEJOY FLEXIBLE COUPLINGS**

By use of special cushion materials, Lovejoy Flexible Couplings stop vibration due to misalignment of shafts *and* vibration inherent in either connected machine! Shock, backlash and surge are also absorbed — instantly and permanently. No shutdowns for changing cushions, which are available for every service . . .1/6 to 2500 H.P. No lubrication ever needed.

Write for catalog and Quick-Finding Selector Charts

LOVEJOY FLEXIBLE COUPLING CO.

5003 W. Lake St. Chicago 44, Ill.

Also Mfrs. of Lovejoy Universal Joints and Lovejoy Variable Speed Transmissions

For more details circle NED-194 H3 on enclosed inquiry slip

Cramer TIMING DEVICES

Better than 0.02 of 1% accuracy

new

MODEL ET TIME TOTALIZER

For accurate timing operations in industrial laboratories, or for measurement and control processes in chemical or metal fields.

- Positive action clutch with differential gear prevents slippage and overrun.
- High torque motor.
- Compact size.
- Models available to meet exacting military specifications.

Write for bulletin 690

the R. W. CRAMER CO., Inc.

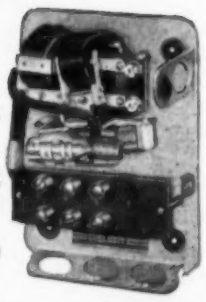
Box No. 28 Centerbrook, Conn.

For more details circle NED-195 H3 on enclosed inquiry slip

MERCOID

TRANSFORMER-RELAYS

FOR VOLTAGES UP TO 550V. A.C. or D.C.



NO SPRINGS OR CLAPPERS

NO WELDING OF CONTACTS

NO MAINTENANCE REQUIRED

UNAFFECTED BY DUST, DIRT OR PITTING

ENGINEERED FOR LONG OPERATING PERIODS

Recommended for all applications requiring a very quiet and dependable mercury switch relay with low voltage pilot circuit. Available in many circuit arrangements. Our engineering staff will gladly assist in the adaptation of a Mercoid Relay for your particular problem.

Write for Catalog No. 700R

THE MERCOID CORPORATION, 4201 BELMONT AVE., CHICAGO, ILL.

For more details circle NED-196 H3 on enclosed inquiry slip

The best "soft" hammer your money can buy!

C/R **JAW-HEAD**

Tough, resilient water buffalo faces deliver needed power, cushioned to protect fine finishes and delicate parts. Faces quickly and easily replaced. Safety-Flare handle gives comfortable non-slip grip. When you need a "soft" hammer, make sure it's a C/R **RAWHIDE Jaw-Head.**

For further information write Dept. 22

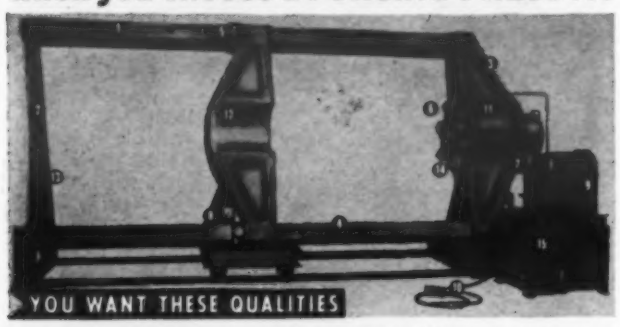
FACES REPLACED IN SECONDS
Merely loosening a nut releases jaws for replacing faces. Tightening nut holds faces in vise-like grip.

CHICAGO Rawhide MFG. CO.
1301 Elston Ave., Chicago 22, Ill.
In Canada: Super Oil Seal Mfg. Co., Ltd., Hamilton, Ontario

● *Available from leading industrial suppliers. Also C/R Rawhide mallets and Rawhide mauls.*

For more details circle NED-197 H3 on enclosed inquiry slip

when you choose a FORCING PRESS...



RUGGED, LONG-LIFE CONSTRUCTION (1) Cold rolled steel tension members. (2) Rigid support frame—solidly welded. (3) Finest alloy cast steel—heat treated. (4) Accurately machined bearing block pin holes.

SIMPLICITY AND SPEED OF OPERATION (5) Bearing blocks positioned by a steel pin. (6) Spring return or double acting rams. (7) Working pressure always visible. (8) Hand winch moves abutment truck.

ACCURATE POSITIVE PRESSURE CONTROL (9) Selective, positive pressure adjustment control. (10) Remote control assures greater accuracy.

FLEXIBILITY TO PERFORM A VARIETY OF JOBS (11) Press Cylinder removable as a unit. (12) Nested yoke adaptors available in various sizes. (13) Open end design provides ample clearance. (14) Extra long ram travels available.

EASY MAINTENANCE AND SERVICING (15) Separate pump and cylinder units.

WRITE FOR FREE CATALOG

Rodgers Hydraulic, Inc.
7425 Walker St., St. Louis Park, Minneapolis 16, Minn. Hydraulic Power Equipment

▲ For more details circle NED-198 H3 on enclosed inquiry slip ▲

Announcing the NEW

Snap-Tite's **Hi-Flow** LINE

FULL SWIVEL

QUICK
CONNECT *and* DISCONNECT
COUPLERS

FOR

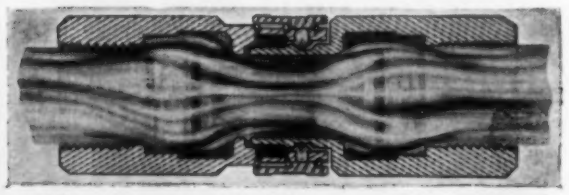
AIR • WATER • OIL • GAS
STEAM • CHEMICALS, Etc.

MADE IN SIZES

1/8" - 1/4" - 3/8" - 1/2" - 3/4" - 1" - 1 1/4" - 1 1/2"
2" - 2 1/2" - 3" - 4" - 6" - 8" - AND UP

MADE FROM

STEEL • BRASS • ALUMINUM
and STAINLESS STEEL



The Greatest Flow in Couplers

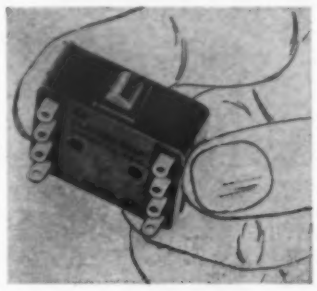
Certain territories in the United States and foreign countries available for aggressive manufacturers representatives. Write for details.

SEND FOR NEW TECHNICAL CATALOG NO. VP83

SNAP-TITE INC.
201 TITUSVILLE RD. • UNION CITY, PA.

▲ For more details circle NED-199 H3 on enclosed inquiry slip ▲

DOUBLE-POLE SWITCH
operates four circuits at one snap



Developed for switching circuits having two different currents, phases or voltages, but which must be switched at the same time, this double-pole switch operates on the reaction principle. Because it can simultaneously break or reverse current flow through two windings of a three-phase motor, it can be used as a start-and-stop or limit switch on three-phase machinery. Made with eight terminals, the switch can operate up to four separate circuits at one snap. Case dimensions are 1½ x ⅞ x ½-in. and rating is 15 amp at 125/250 v ac and 10 amp at 30 v dc. Simultaneous switching actions permits all four contacts to be wired for use as a single-pole switch on high voltage direct current circuits (110 v dc) up to 20 amp. Made by **Electro-Snap Switch & Mfg. Co.**, 4232 W. Lake St., Chicago 24, Ill.

▲ For more details circle NED-200 H3 on enclosed inquiry slip ▲

REFLECTOR COLOR LAMPS
for display illumination are 150 w

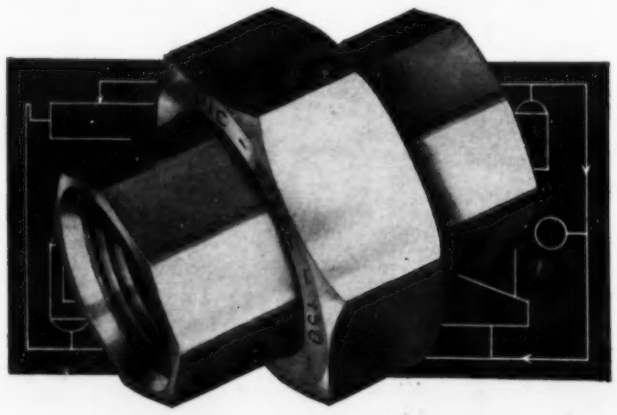
Permanent color filters baked on the 5-in. face of these 150-w incandescent reflector lamp bulbs provides for effective display illumination and decorating. Series includes four lamps which produce basic colors of red, green, yellow and blue, and two which produce blue-white and pink tints. They are easy to install and maintain, and are suitable for lighting of small stages where a minimum investment in equipment is important. Offered by **General Electric Co.**, Lamp Div., Dept. 166-NED, Nela Park, Cleveland 12, O.

▲ For more details circle NED-201 H3 on enclosed inquiry slip ▲

Wood Screws

Southern Screw Co.—Just how color identification labeling, size marking and protective packaging are employed to make complete line of wood screws, including both slotted and Phillips types, easier to stock and use is outlined in 2-page bulletin. Also offered is 12-page illustrated price list of packaged and bulk slotted and Phillips head steel and brass wood screws.

▲ For more details circle NED-202 H3 on enclosed inquiry slip ▲

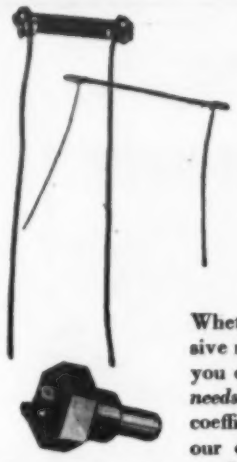


Pics fit your new
Equipment PICture!

Yes, their eye-catching brightness and strength make these 150 lb. steel unions the choice for original equipment. They go on fast, too, because ends are uniformly flat-sided to accommodate open end wrenches. You can't hurt the steel pipe coupling stock either. Special wedge-type bronze seat for tight seal. Complete zinc plating, even on threads combats rust. Pics cost *less* than a galvanized, *no more* than a black malleable union.

Write for Samples
DART UNION COMPANY
132 THURBERS AVENUE, PROVIDENCE 5, R. I.

▲ For more details circle NED-203 H3 on enclosed inquiry slip ▲



Used in this typical application for sensing temperature of hydraulic oil.

made right
to work right

BENDIX-FRIEZ

high-precision
thermistors

Whether you use these temperature responsive resistors in standard or special models, you can be sure of this. *They'll match your needs* for resistance values, size, temperature coefficient, mountings and quality. Made in our own plant under carefully controlled conditions, Bendix-Friez Thermistors know no equal.

STANDARD TYPES FOR IMMEDIATE DELIVERY

Size (inches)	@ +30°C.	@ 0°C.	@ −30°C.
.140 x .75	45.0 ohms	86 ohms	194 ohms
.040 x 1.5	12,250 ohms	26,200 ohms	65,340 ohms
.018 x 1.5	35,000 ohms	82,290 ohms	229,600 ohms

Write for details.

FRIEZ INSTRUMENT DIVISION of Bendix Aviation Corporation

1444 Taylor Avenue, BALTIMORE 4, MARYLAND
Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

▲ For more details circle NED-204 H3 on enclosed inquiry slip ▲

When you buy a bronze valve, take a good look at the hexes on the pipe ends. Is there room for a full grip with a wrench? Also, look inside an end to see whether there are enough threads to prevent jamming the valve seat when pipe is installed. Look at the parts where weight counts -- pipe ends, centerpiece, neck of body -- and make sure they are heavily made. Grip the handwheel to see how easily it fits your hand.

You'll find all the best features in any O-B valve.

OHIO BRASS COMPANY MANSFIELD OHIO

Ohio Brass VALVES
MANSFIELD OHIO

▲ For more details circle NED-205 H3 on enclosed inquiry slip ▲

SAW
it ALL... and SAVE

with the

KETT
PANEL CUTTING SAW

no drilling!
no filing!
no deburring!

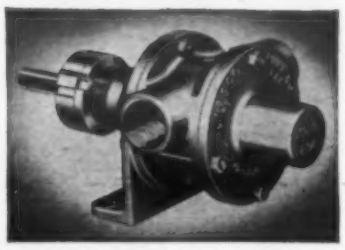
Exclusive features save you time and money. Just "plunge" right in and cut everything from cardboard to steel. Zip around curves and contours . . . through the toughest cutting job far quicker and easier. Typical capacities: 12 ga. steel, 3/16" aluminum, ¼" Masonite, plywood, Mirawal Fiberglas and plastics. Interchangeable blades permit cutting soft rigid materials up to ½" . . . blades for tempered or soft aluminum, copper, brass, lead, etc. Your electric or pneumatic drill motor can power the KETT Saw. Write for Catalog E-20.

THE KETT TOOL COMPANY • East Third St., Cincinnati 2, Ohio

▲ For more details circle NED-206 H3 on enclosed inquiry slip ▲

JABSCO STAINLESS STEEL PUMPS SOLVE CORROSIVE PUMPING PROBLEMS

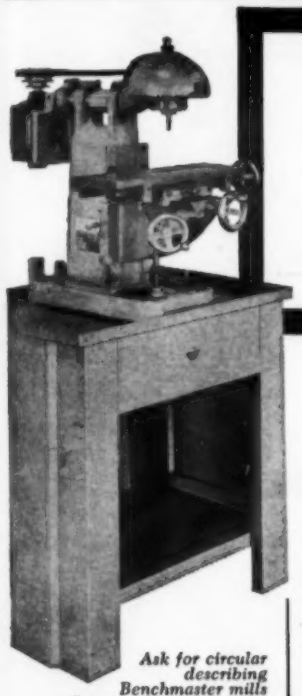
Designed and Engineered for Chemical Applications



Jabsco's complete line of self-priming, corrosion-resistant pumps answer a multitude of pumping needs. Models 2810 (1" pipe size), 2870 (½"), and 2690 (⅜") have all metallic parts of Type 316 stainless steel. Shafts are supported by oversize, replaceable carbon bearings, stuffingbox type shaft seal with chemical resistant packing. Pumps function perfectly even with dry suction lifts approaching 15', no foot valve is required. When primed, they suck as high as 26'. Jabsco pumps have no metal-to-metal contact, no gears to wear or become noisy. The exclusive "camflexed" Neoprene Impeller is the only moving part. This tough, long-lived, wear resistant impeller is self-lubricated by the liquid pumped. Jabscos are economical, low in first cost, and trouble and maintenance free, even under continuous operation. May be mounted at any angle to pump thin or viscous liquids, and can be operated efficiently at low or high speeds. At 10' head and 1750 RPM, Model 2810 delivers up to 27 GPM, Model 2870 up to 10 GPM, Model 2690 up to 4 GPM. Other stainless steel models also available with ball bearings and mechanical seals. For complete information on how Jabsco can solve your pumping problems, write **Jabsco Pump Company,** 2031 North Lincoln Street, Burbank, California.

Advt.

▲ For more details circle **NED-207 H3** on enclosed inquiry slip ▲



benchmaster
the *preferred* mill for small jobs!

4 models: vertical, horizontal, two production types.

Benchmaster is popular in every shop because it's a *real* time and money saver . . . takes *big, heavy cuts* for rapid metal removal, *mills vertically or horizontally* simply by substituting spindle assemblies, is *fast and easy on set-ups, saves thousands of dollars* over big-mill investments!

For small jobs you just can't beat a Benchmaster . . . low initial cost, high precision, power and extreme versatility make this the best dollar investment in your shop!

Ask for circular describing Benchmaster mills and numerous accessories!

Benchmaster Manufacturing Co.
1835 W. Rosecrans Avenue, Gardena, Calif.

benchmaster

World's largest manufacturer of small punch presses and mills.

▲ For more details circle **NED-208 H3** on enclosed inquiry slip ▲

REDUCE POWER BILLS!
CUT WIRING, TRANSFORMER AND SWITCHGEAR COSTS *in new installations*
AVOID REWIRING

with

SPRAGUE "ON-THE-SPOT" *Power Factor* CAPACITORS

Sprague power factor correction capacitors can save you real money in installations, large or small! They are easily connected, reduce line amperage and thus go far toward reducing costs. Your circuits will handle considerably more load if Sprague Capacitors are installed at your motor terminals—and no separate fused switches are required!

Get this Guide!

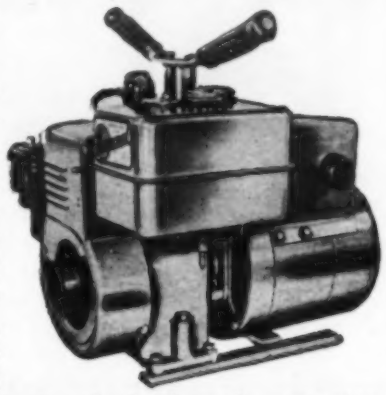
28 pages replete with PFC money-saving suggestions and installation data. Ask for guide 50B

SPRAGUE ELECTRIC COMPANY
183 Marshall St. North Adams, Mass.

▲ For more details circle **NED-209 H3** on enclosed inquiry slip ▲

ELECTRIC PLANT
compact unit generates 1000 w

Weighing less than 95 lb and taking less than 2½ cu ft of space, model 1050 self-contained electric generator plant develops 1000 w ac. It is powered by a heavy-duty, one-cylinder air-cooled gasoline engine, and has two convenient twist-lock outlet receptacles for lighting or operating appliances or power tools. All electrical equipment is completely enclosed, and battery charging cut-out prevents battery from discharging back through generator. Unit has pushbutton starting and requires no mounting or other installation. Made by **Universal Motor Co.,** 352 Universal Dr., Oshkosh, Wis.



▲ For more details circle **NED-210 H3** on enclosed inquiry slip ▲

TOGGLE CLAMPS
of all-welded construction

Caddy toggle clamps, built with extra large pivot pins, have a frame that will not spring or bend under maximum load. Models V-1, V-2 and V-3 have capacities of 1000, 2000 and 2000 lb, respectively. Clamp bar on all models is reinforced. A pipe extension handle can be used without damage to linkage. Clamping height of smallest model is 1 11/16 in. and throat depth is 2 15/16 in. Same dimensions for other models are 2 3/16 and 3⅞ in. for the V-2 and 3 3/16 and 5⅝ in. for the V-3. All models are cadmium plated. Made by **Erico Products, Inc.,** 2072 E. 61st Pl., Cleveland 3, O.

▲ For more details circle **NED-211 H3** on enclosed inquiry slip ▲

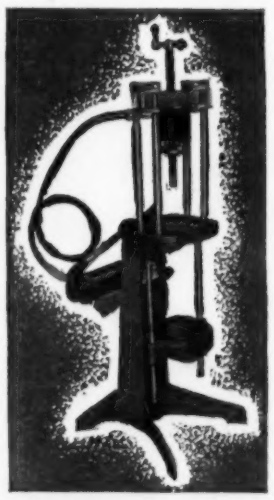
Buildings for Industry

"Standardized Buildings by Luria" is a 20-page brochure which discusses standardized steel-frame structures for industry and government. Flexibility, low overall cost, permanence and speedy erection are their main features. It is reported that the structures provide more usable building space and can readily be adapted to special requirements. Write direct on your letterhead to Luria Engineering Co., 500 Fifth Ave., New York 36, N. Y.

▲ For more details circle **NED-212 H3** on enclosed inquiry slip ▲

new OTC **POWER-TWIN**

PORTABLE PEDESTAL PRESS



An amazingly efficient portable pedestal press, which combines with the Power-Twin Hydraulic Ram to perform tough jobs easily and quickly.

STRONG. Handles 95% of all pulling or installing jobs. Especially designed for use with OTC 17½ ton Hydraulic Puller.

AMAZINGLY PRACTICAL for all production, assembly line and maintenance operations.

PORTABLE OR PERMANENT. Easily moved from job to job or located near permanent equipment.

COMPACT. Base is only 20 x 21 inches.

VERSATILE. Provides almost unlimited vertical adjustment for pulling or installing wheels, pulleys, bushings, collars, couplings, gears, shafts and bearings.

POWER-TWIN HYDRAULIC BENCH PRESS

Bench frame available for use with OTC Power-Twin Center-Hole Hydraulic Ram. Provides compact, inexpensive hydraulic press for mounting on bench for use in shop—or service truck for use on the job.

See your jobber for complete information or write us.

OWATONNA TOOL COMPANY
436 CEDAR STREET • OWATONNA, MINNESOTA

▲ For more details circle **NED-213 H3** on enclosed inquiry slip ▲

Cut Polishing Time Improve Surface Quality

with "LINDE" FINE ALUMINA POWDERS

Obtain superior finishes, free from microscopic pits and scratches in a fraction of the usual polishing time. Use less abrasive and use it directly without levigation and other wasteful preparatory steps. They can also be compounded with waxes and used in stick form.

LINDE Fine Alumina Powders are characterized by ultra-fine, uniform particle size, high purity, and swift polishing action. They have gained wide-spread acceptance in polishing materials ranging from metallographic specimens to gemstones and noble metals.

Call or write any LINDE office and we will be glad to discuss your particular polishing applications.

	Type A	Type B
Chemical Composition	Alpha Al_2O_3	Gamma Al_2O_3
Particle Size (approximate)	0.3 Microns	Less than 0.1 Microns
Hardness (Moh's) (Equivalent to crystalline material)	9	8
Crystalline Structure	Hexagonal	Cubic

The term "Linde" is a trade-mark of Union Carbide and Carbon Corporation.

LINDE AIR PRODUCTS COMPANY
A DIVISION OF UNION CARBIDE AND CARBON CORPORATION
30 East 42nd Street, New York 17, N. Y. UCC Offices in Other Principal Cities

▲ For more details circle **NED-214 H3** on enclosed inquiry slip ▲

Here's the camera that helped JOHN DEERE build a better beet harvester

Sometimes high speed movies solve design problems in the most unexpected places. A sugar beet field, for example.

An experimental John Deere sugar beet harvester ran into a snag in field tests. Spinning spring teeth which remove the heavy, green tops prior to lifting the beet roots were failing in use. This was attributed to the recoil vibrations resulting from the weight of the tops and to rough, uneven ground which caused torsional deflections as great as 60 degrees.

To see exactly what happened, John Deere engineers carried their Kodak High Speed Camera out into the field and took movies of the fast-moving action at 1,000 and 3,000 frames a second. When the films were projected at normal speed, action was slowed almost 200 times. Study of the movies showed how steel or rubber dampeners would solve the problem. They also indicated how redesigning the mounting of the spring would further reduce recoil vibration.

The Kodak High Speed Camera may well be the tool that can help solve your problem of high speed mechanical action or fluid flow. It's easy to use and has the right speed range for most industrial applications. For complete information, send for a copy of our booklet. Or, write for details on a sound movie, "Magnifying Time."

Industrial Photographic Division
EASTMAN KODAK COMPANY
Rochester 4, N. Y.

the Kodak *HIGH SPEED* Camera

Kodak

▲ For more details circle **NED-215 H3** on enclosed inquiry slip ▲

Cleans 12 miles of aisles in 6 HOURS!

The new Multi-Clean Motorized Sweeper can be a time and money saver for you just as it is for this large paper products plant. These 8 ft. warehouse aisles, the factory floors, sidewalks, alleys and freight docks are all cleaned in a fraction of the time formerly required by the old fashioned push broom method. Powered by a gasoline engine, the sweeper combines a Palmyra filled rotary sweeping brush 36 inches long and a powerful built-in vacuum unit. With side brush attachment sweeping width is increased to 4 feet.

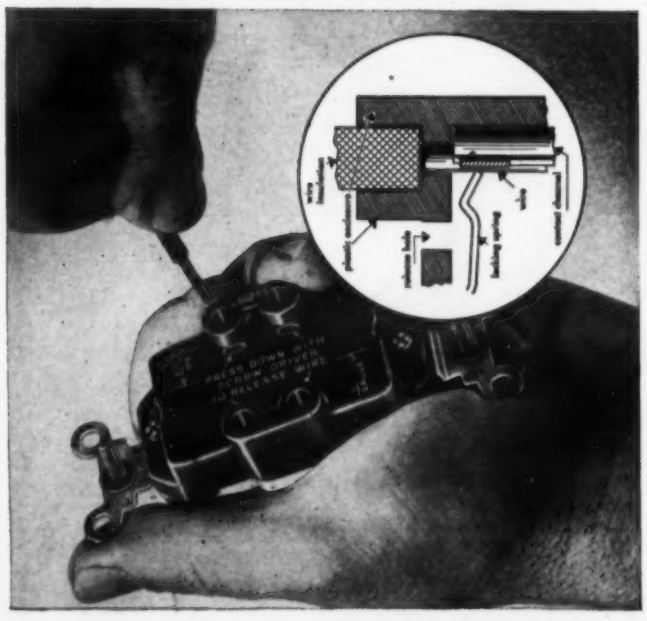
Took 3 men with push brooms 8 hours to do the job.

Picks up dirt, dust, steel shavings, paper, grass, small metal parts and milling debris. The Sweeper's trouble-free service, easy operation and low price make it the best buy in the motorized sweeper field. For more information write—

MULTI-CLEAN®
2277 Ford Parkway, Dept. NE-8 St. Paul 1, Minn.

For more details circle NED-216 H3 on enclosed inquiry slip

NOW... just push in the wires



New G-E "PRESSURE-LOCK" Terminals

connect wiring devices automatically—without binding screws

You can now make electrical connections by simply pushing straight, stripped wires into these new "pressure-lock" terminals. The spring lock holds the wire securely against a contact channel. Jarring, vibration, and even a pull of 75 pounds won't loosen the wires . . . yet they can be released instantly by depressing the locking spring with a screwdriver. There are no binding screws . . . no looping, hooking, or crimping operations. It's the easiest way to wire.

These terminals are featured in the new GE3800-line of outlets, switches, and lampholders. They take No. 14, 12, or 10 Awg solid conductor, or No. 14 or 12 stranded wire. All live parts are completely enclosed. Listed by Underwriters' Laboratories, Inc. For more information, write for our illustrated folder. Section D79-861, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

You can put your confidence in—

GENERAL ELECTRIC

For more details circle NED-217 H3 on enclosed inquiry slip

POSTURE CHAIR

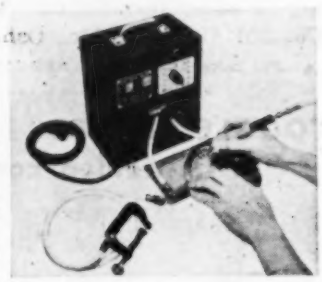
seat and back height are adjustable

Hair-pin back support for additional comfort is feature of model 1009 executive type posture chair. Seat and back are upholstered in wide range of plastic coated or popular woven fabrics in variety of colors. Arms are deeply padded for extra comfort. Finish is anodized aluminum. Height of seat from floor is adjustable from 18¼ to 21 7/16 in., and back, 13½ to 16½ in. from seat. Made by **Emeco Corp.**, Hanover 2, Pa.

For more details circle NED-218 H3 on enclosed inquiry slip

PORTABLE ELECTRIC MARKER

adjusts to light or heavy marking

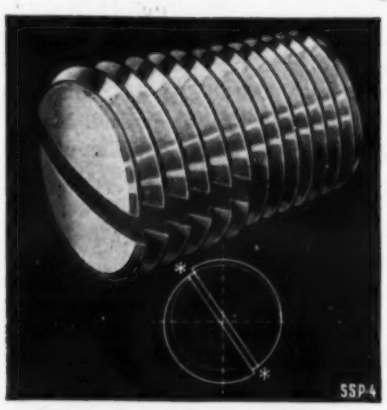


Standard and heavy-duty electric markers, models EM-60 and EM-120 respectively, are designed for free-hand marking on all steels before and after hardening. Both models have a ten-station rotary switch which varies the mark intensity at will. Marking pencil has cork insulation over hollow ventilated sleeve to prevent operator discomfort under continuous use. Units are for use with either 115 or 230-v ac and are fitted with carrying handle. Made by **H. P. Preis Engraving Machine Co.**, 203 Industrial Branch, Hillside, N. J.

For more details circle NED-219 H3 on enclosed inquiry slip

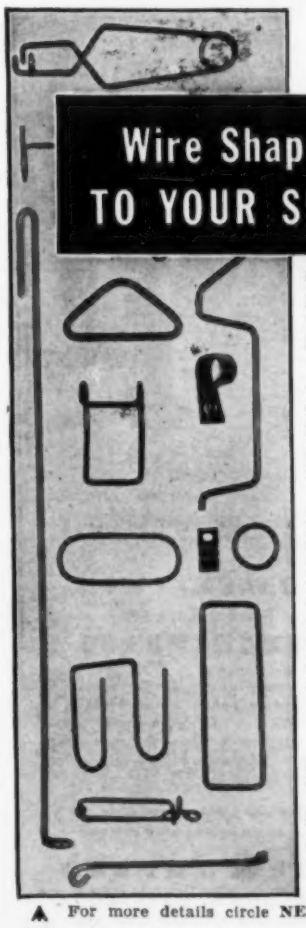
SELF-LOCKING SET SCREWS

for slotted screw applications



Setko offset self-locking set screws are suited for applications in which slotted screws are required. They are frequently used in knock-down assemblies as screws remain in tapped holes during shipping. Locking action results from springing or offsetting sections on both sides, parallel with the screw slot. Screws were formerly made by Shakeproof Div. of Illinois Tool Works, but are now available from **Set Screw & Mfg. Co.**, 130 Main St., Bartlett, Ill.

For more details circle NED-220 H3 on enclosed inquiry slip



Wire Shapes and Forms TO YOUR SPECIFICATIONS

● Your wire forms are produced fast, accurately and at low cost with Sommer mass-production methods.

Speedy, automatic plating equipment handles either large or small assemblies. Popular new Zinc Iridite process adds a bright, durable, economical finish.

Sommer offers complete forming, stamping, cut-threading and butt-welding services. Let us work with you in designing and producing any wire shapes or forms needed for your defense contracts. Send sample, blueprint or drawing—see how Sommer can save you time and money.

SOMMER METALCRAFT CORPORATION
200 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

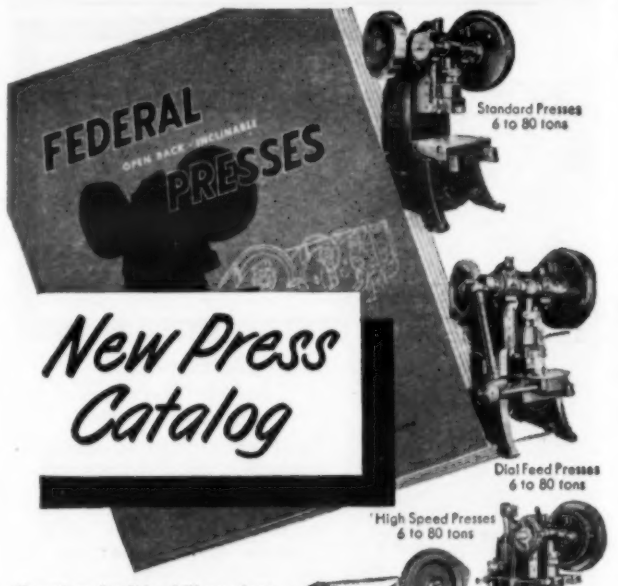
For more details circle NED-221 H3 on enclosed inquiry slip

NEW ADJUSTABLE DRILL JIG

eliminates layout; cuts drilling time

Used for drilling holes through round stock and hex stock from ¼" to 2" and cap screws from ¼" to 1¼", the new Mathewson Adjustable Drill Jig eliminates layout and can cut drilling time on small lots to a fraction. And it eliminates the costs of special jigs for larger quantities. Holes for cotter pins, set screws, drive pins for bayonet joints, oil holes in tubular sections, and wiring holes in cap screws, are all typical of the operation that can be done more economically with this jig. Hole diameters range from .052" to .531", using your A.S.A. standard slip bushings. The hardened V-block has two 60-degree V's for centering round or hexagonal stock, one for ¼" to 21/32" diameter, one for 21/32" to 2" diameter. Adjustable stop for locating work longitudinally for drilling any distance from end, may be used on either side. Adjustable bushing carriers hold slip bushings and clamp work securely. Jig highly successful in permitting use of inexperienced drill operators. For circular write to: **Mathewson Machine Works**, 22 Hancock St., Quincy, Mass. *Advt.*

For more details circle NED-222 H3 on enclosed inquiry slip



Complete details and illustrations of Federal's high quality line of open-back, inclinable presses, 6 to 80 tons including **Standard Presses, Dial Feed Presses, High Speed Presses, Special Presses.** Shows unusual applications and how to select presses of proper capacity. You will welcome this catalog. It should be in your files.

Write For Free Copy Today!

THE FEDERAL PRESS COMPANY
506 Division Street, Elkhart, Indiana

FEDERAL Open Back Inclinable PRESSES
28 YEARS OF QUALITY CONSTRUCTION

For more details circle NED-223 H3 on enclosed inquiry slip

WICKWIRE ROPE SLINGS

in braided and single part construction

Braided slings made by Wickwire give you these advantages:

- Extreme flexibility
- Non-kinking properties
- Better conformation to irregular surfaces
- More even load distribution
- Will not take a permanent set

Write or call our nearest sales office for full details.

THE COLORADO FUEL AND IRON CORP.—Abilene (Tex.) • Denver
Houston • Odessa (Tex.) • Phoenix • Salt Lake City • Tulsa
PACIFIC COAST DIVISION—Los Angeles • Oakland
Portland • San Francisco • Seattle • Spokane
WICKWIRE SPENCER STEEL DIVISION—Boston • Buffalo • Chattanooga
Chicago • Detroit • Emlenton (Pa.) • Philadelphia • New Orleans • New York

WICKWIRE ROPE
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION

1340

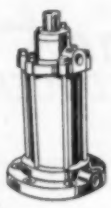
For more details circle NED-224 H3 on enclosed inquiry slip

LOGAN AIR AND HYDRAULIC POWER

SPEEDS • COORDINATES • REFINES PRODUCTION IN OVER 10,000 INDUSTRIAL PLANTS

AIR-DRAULIC CYLINDERS • AIR and HYDRAULIC PRESSES • COLLET GRIP TUBE FITTINGS • SUMPS • SURE-FLOW COOLANT PUMPS • HYDRAULIC POWER UNITS • HYDRAULIC CYLINDERS • HYDRAULIC CONTROL VALVES • AIR CHECKS • AIR CONTROL VALVES • AIR CYLINDERS

Logan HYDRAULIC CYLINDERS



NONROTATING 750 SERIES TYPE

7 standard mountings; 8 standard sizes from 2" to 8" diameter bore.

ROTATING "HR" TYPE

7 standard sizes from 3" to 14" bore.

ROTOCAST® SERIES

7 standard mountings, sizes 2" to 8" bore, strokes up to 8' as standard.

SAVES TIME Logan AIR AND HYDRAULIC EQUIPMENT EXPORT-MOTOR

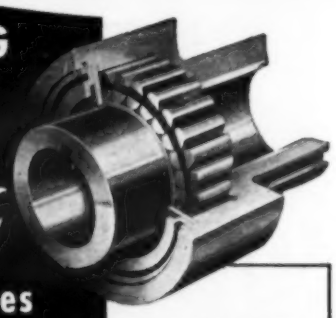
LOGAN MANUFACTURES 6,975 STANDARD CATALOGED ITEMS • CATALOG ON REQUEST

Consult Logan for your Special Heavy-Duty, Mill-Type Cylinder requirements.

LOGANSPORT MACHINE CO., INC.
808 Center Avenue Logansport, Indiana

For more details circle NED-225 H3 on enclosed inquiry slip

FORMSPRAG CLUTCHES Are Full Complement Clutches



OVER-RUNNING
INDEXING (Feeding)
BACKSTOPPING

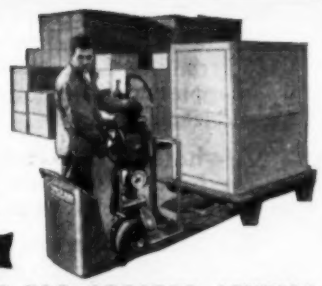
A FULL COMPLEMENT OF SPRAGS—between two races—provides an infinite number of gripping positions. This, along with Formsprag's internal simplicity, means: INSTANTANEOUS, ACCURATE OPERATION with no *backlash* . . . LONG LIFE because of changing contact points . . . MAXIMUM TORQUE CAPACITY for size and weight.

Before you specify another clutch, be sure to read this 10-page folder of technical engineering data. Just write to Formsprag — on your letterhead, please.

FORMSPRAG Company 2359F HOOVER ROAD VAN DYKE, MICHIGAN

For more details circle NED-226 H3 on enclosed inquiry slip

NOW truck-man



WITH POWER LIFT FOR GREATER SAVINGS

Successfully tested in the heaviest industries, two Truck-Man models are now ready to cut your costs still more with power lift. Hundreds of Truck-Man trucks with much smaller load capacities and only hand pumps are more than earning their way throughout the nation. Now Power Lift increases this efficiency while retaining the advantages of the agile standard models. A flick of the wrist and the new power lift raises or lowers the load instantly. Once load is raised from the floor, truck can start as balance of lift can be made in transit. 15-40 seconds are saved each trip—more trips per day—more work with less effort.

SIX VERSATILE MODELS

NEW MODEL DHP—Heavy Duty Skid Lift with power pump, 4500 lb. capacity—scoots through narrow aisles, up inclines and around sharp corners with a full load, three shifts a day with ease.

NEW MODEL DFP—3000 lb. capacity, power lift Pallet Toter—hustles those heavy palletized loads around the plant in jig time. Easily does the work of units costing 3 to 5 times as much.

MODEL DH—4500 lb. Skid Lift with Hand Pump.

MODEL DF—3000 lb. Pallet Toter with Hand Pump.

MODEL DT—2000 lb. Platform Utility for intra-plant messenger service, parcel delivery or other manually handled loads.

MODEL DR—Truc-Tor for towing those heavy cargo trains—up to 6500 lbs. on dry level concrete.

truck-man DIV. OF THE KNICKERBOCKER CO.
627 LIBERTY STREET • JACKSON, MICHIGAN

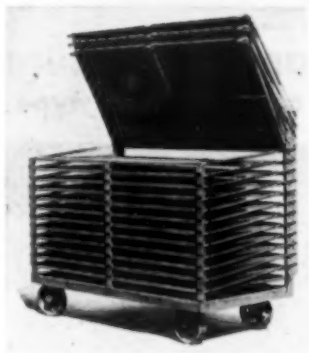
For more details circle NED-227 H3 on enclosed inquiry slip

CONVEYOR BELT GUIDES
protect belt edges from rips, tears

Conveyor belt edges can be protected from ripping, fraying and tearing by the Guidler, a combination idler and guide. Using the hyperbolic principle, it not only returns the belt to its proper course without injury, but can be used to control a belt with narrow distances of movement. Installation is at 30-degree angle, with force of impact distributed over relatively long, flat surface. Three styles are built. Made by **Knapp Mills Inc.**, 23-00 Borden Ave., Long Island City 1, N. Y.

For more details circle NED-228 H3 on enclosed inquiry slip

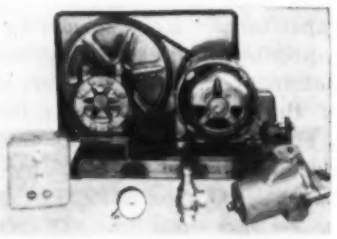
SHEET DRYING RACK
equipped to customer specifications



For drying and curing sheets and materials and for keeping parts separated, this book-type rack is available with shelves of any desired number, spacing and load capacity. It can also be ordered for use with lift trucks or fitted with casters. Metal and rubber tired wheels are available. Shelves can be easily raised and lowered, and are held in position by extension springs. Made by **Palmer-Shile Co.**, 16003 Fullerton St., Detroit 27, Mich.

For more details circle NED-229 H3 on enclosed inquiry slip

FUEL OIL PUMP SETS
for use with industrial oil burners



For use with non-pump type burners or where more than one burner or an auxiliary method of oil transportation is required, York-Power pump sets are available in capacities of 100, 225, 400 and 700 gph. Sets are shipped complete with standard base-mounted electric motor and equipped with pushbutton magnetic motor starter, strainer, pressure gage, relief valve and necessary sheaves and belts. Units are ready for operation after connection to fuel and power lines. Made by **York-Shipley, Inc.**, Industrial Div., 85 Jessop Pl., York 4, Pa.

For more details circle NED-230 H3 on enclosed inquiry slip

SKINNER Solenoid Valves for air & hydraulic cylinders fluid shut-off diaphragm operated equipment coolant control

M2

BRONZE BODY

"M" SERIES pilot-operated Skinner Valves have extremely fast action, and large capacity on air, inert gas and liquid applications. All internal metal parts are stainless steel or brass. Soft seals prevent leakage — operate in any position — rubber coated, nylon fabric diaphragm for long life — port size ½" or ⅜", orifice ⅜" — power consumption, 10 watts — continuous duty.

M2 is two-way, normally closed, 5 to 150 p.s.i., weight 3 lbs. M3 is three-way, normally closed, normally open, or directional flow, 20 to 150 p.s.i., weight 3¾ lbs.

M3

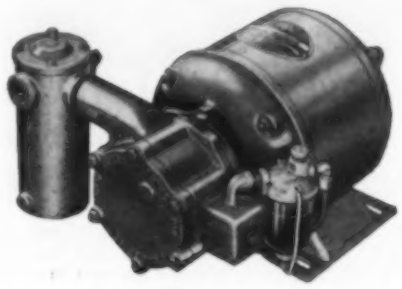
Write for Bulletins No. 493 & 494

Skinner ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
112 Edgewood Avenue, New Britain, Connecticut

For more details circle NED-231 H3 on enclosed inquiry slip

USE THIS COMPACT MOTOAIR PUMP FOR VACUUM

AVAILABLE IN SEVERAL SIZES



NO BELTS • NO COUPLING • DIRECT DRIVE makes it MORE COMPACT!

No other pump packs such dependable vacuum in so compact a space. It's complete with motor. Plug in and use. Visible, circulating lubrication.

Write for Catalog—

823

NEW JERSEY MACHINE Corporation

FACTORY SALES AND SERVICE BRANCHES CHICAGO CINCINNATI LOS ANGELES

1550 WILLOW AVENUE, HOBOKEN, N. J.

For more details circle NED-232 H3 on enclosed inquiry slip

LIKE AN ATOM-IC EXPLOSION

Just 1/32" (pinhole size) faucet leak

MUSHROOMS into ATOMIC WASTE

of approximately 95,000 gallons* of water yearly—costing:

$24.14

@ $1.90 per M cubic feet

If a hot water faucet, then actual FUEL WASTED heating 95,000 gallons costs approximately:

$88.01 if coal (9879 lbs.) †
$91.08 if oil (792 gals.) †
$84.41 if gas (84,411 cu. ft.) †

Above figures authenticated by Hackensack Water Co.* and American Gas Association.†

STOP this needless WASTE during today's MATERIAL and MANPOWER shortages with 'SEXAUER' "Easy-Tites" that outwear ordinary faucet washers 6-to-1, thus SAVING labor on 5 REPEAT repairs, PLUS water and fuel, while prolonging the life of SCARCE fixtures.

PAT'D.

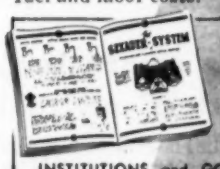
"EASY-TITE" Faucet washers

...a modern laboratory triumph, are compounded from du PONT NEOPRENE (tested up to 300° F.) instead of rubber—to withstand DESTRUCTIVE HEAT common in present-day superheating water systems—that formerly broke down washer's structure.

Built like a tire with fabric re-inforcement

they resist the grinding, closing squeeze that SPLIT and MUSH ordinary washers out of shape...causing LEAKS.

Through combining NEOPRENE and FABRIC RE-INFORCEMENT they OUTWEAR ordinary washers 6-to-1 on hot or cold FAUCETS—thus you slash water, fuel and labor costs.



THE NEW 'SEXAUER' CATALOG,

Edition G, just out pictures over 2500 TRIPLE-WEAR plumbing REPAIR parts and Pat'd. Precision Tools. It's today's accepted buying guide for discriminating purchasing and maintenance personnel among thousands of top PLANTS, INSTITUTIONS and GOVERNMENT AGENCIES that rely on SEXAUER repair materials. Send for your copy today!

Then too, there's a SEXAUER TECHNICIAN within quick call from coast-to-coast, who offers a special SURVEY service that sets up a schedule of the exact replacement parts required for your particular plumbing fixture regardless of make or age and *without obligation*.

A postcard will bring him and your NEW Catalog promptly.

J. A. SEXAUER MFG. CO., INC., Dept. AU-83, 2503-05 Third Avenue, New York 51.

as advertised in THE SATURDAY EVENING POST

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

For more details circle NED-233 H3 on enclosed inquiry slip

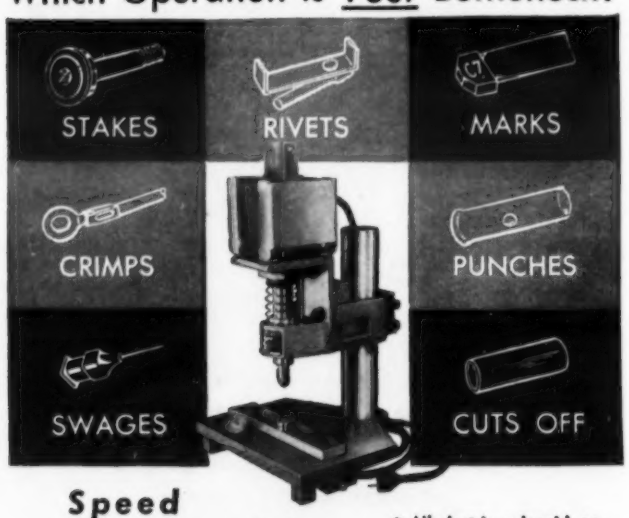
for ruggedness and simplicity, long life and low maintenance. A real material handling cost saver. Available in various suspensions and speeds; in capacities 1000 to 6000 lbs.

Ask for Bulletin 668

DETROIT HOIST & MACHINE CO.
48th year—Designers & Manufacturers of Hoists and Cranes
8248 Morrow St. • Detroit 11, Mich.

For more details circle NED-234 H3 on enclosed inquiry slip

Which Operation is *Your* Bottleneck?



Speed Output with LIGHTNING-FAST ELECTROPUNCH

- All-electric solenoid operated impact hammer with controllable blow
- Compact/economical/versatile/ Plugs into 110 A.C. outlets
- Lightest model only $98.75

PRODUCES UP TO 5,000 hand positioned pieces per hr./ faster with automatic switching!
Write for all the details!

BLACK & WEBSTER, INC.
Dept. 1, 445 Watertown St., Newton 58, Mass.
Also Bigelow 4-6370
Manufacturers of ELECTROSTAKE and ELECTROPRESS

For more details circle NED-235 H3 on enclosed inquiry slip

ELECTRIC BRAKES AND CLUTCHES

Speed machine operation, simplify pushbutton control!

A completely new principle for controlling machinery. . .Warner Electric Brakes and Clutches are simpler, faster, more flexible than conventional oil, air or mechanically actuated units. Open many new design possibilities, new opportunities for improving performance of machinery and developing new products. Wide range of sizes—6 or 90 volts.

WARNER ELECTRIC BRAKE & CLUTCH CO., BELOIT, WISCONSIN

Warner Electric Brake & Clutch Co.
Beloit, Wisconsin
☐ Please send complete data and specifications—Bulletin No. 6069.
Firm Name_____
Individual_____ Title_____
Address_____
City_____ State_____

For more details circle NED-236 H3 on enclosed inquiry slip

FIRE POTS & TORCHES
heated by liquefied petroleum

With fire pots designed for service either as bench type or tank type units, line of pots and torches uses liquefied petroleum as fuel. Pot features include heavy corrosion resistant cast aluminum base, steel supporting posts, cast iron burner with wide flame range, brass assembly parts and permanent windshield. Operation is at full tank pressure without regulator. Tanks are available in 11 and 20-lb sizes. Torch is offered with three intechangeable brass burners and also does not require pressure regulators. It is easy lighting, and has removable orifice blocks and one-hand flame adjustment. Made by **Turner Brass Works,** Sycamore, Ill.

For more details circle NED-237 H3 on enclosed inquiry slip

SINGLE-PHASE MOTOR
capacitor-start, capacitor-run type

Operating efficiently at near-unity power factor, type CAP-2 single-phase motor is made in 5, 7½ and 10-hp ratings. Design retains high starting torque, and at the same time reduces starting current by about 25 per cent. Auxiliary winding remains in the circuit during operation and is in series with the running capacitors. Relays merely remove the starting capacitors when motor approaches full speed. Elimination of the wound rotor, brushes and commutator of the previous repulsion-induction type makes for a simpler unit with less maintenance. Sparking is also eliminated. Made by **Westinghouse Electric Corp.,** P. O. Box 2099, Pittsburgh 30, Pa.

For more details circle NED-238 H3 on enclosed inquiry slip

Vibration & Shock Control

Robinson Aviation, Inc.—Bulletin 750 describes all-metal mounting systems for protecting electronic, aircraft and other equipment from shock and isolating vibration. Standard and specially engineered units are shown, and both the theory and practice of vibration control explained.

For more details circle NED-239 H3 on enclosed inquiry slip

Which of these Materials Needs More *Efficient* Handling in Your Plant?

abrasive solids and chemicals in suspension • acid slurries and sludges • caustic liquors • milk of lime • soda ash • tailings • slag • ore concentrates • residue from filters and classifiers • coal • silt • washery solids • cement and glass sand slurries

Delivered 'round-the-clock (with fewer breakdowns) by

MORRIS TYPE R SLURRY PUMP

Longer uninterrupted service because:
- No internal studs to cause leakage
- Low pressure stuffing box practically eliminates packing troubles
- Impeller and liner removed without disturbing piping
- Moving parts available in various corrosion/abrasion-resistant alloys

Specifications and operation data on request. No cost — no obligation.

MORRIS MACHINE WORKS
Baldwinsville, N. Y.
Representatives in Principal Cities

MORRIS *Centrifugal Pumps*

For more details circle NED-240 H3 on enclosed inquiry slip

Abart SPEED REDUCERS

Even on your most difficult applications, you can depend on Abart Speed Reducers to deliver efficient, economical power transmission and accurate reduction ratios. These compact units are precision built for exacting performance and long, trouble-free service.

Choose from over 75 sizes and types. Worm, spur, and combination gear. Ratios up to 10,000 to 1. Horsepower ratings from 1/50 to 168. All Abart Reducers are oil tight and dust free.

Send for illustrated pocket size Catalog containing full engineering data on Abart Speed Reducers and Gearmotors.

Abart GEAR & MACHINE CO.
4826 WEST 16th STREET • CHICAGO 50, ILLINOIS
Mfrs. of Gears, Speed Reducers and Gearmotors

For more details circle NED-241 H3 on enclosed inquiry slip

"We Saved Money and got better Protection for TWO Customers by switching to

Fusetron DUAL ELEMENT Fuses

1 **"Fusetron Fuses made it possible to use smaller size switch."**

"Early this year I laid out a wiring job for the Nehi Bottling Works at Boise, Idaho. With ordinary fuses it was necessary to use a 400 ampere 250 volt main switch. The proprietor felt that the cost was too great.

"With Fusetron fuses I could use a 200 amp. 250 v. switch which besides being less expensive would result in better protection. The proprietor was happier with the lower cost and I received the electrical contract."

2 **"A wholesaler's salesman showed us how to stop heating and fuse blowing in a main switch — with Fusetron dual-element Fuses."**

"We discovered a bad heating problem in a 600 amp. 250 v. switch at Falk's Dept. Store, Boise, Idaho.

"A check at the switch showed only 380 amps. were flowing. With this load ordinary fuses would melt and open every 30 to 90 days, resulting in confusion and annoyance to customers and employees. A local wholesaler's salesman suggested 600 amp. 250 v. Fusetron dual-element Fuses be installed — then the heating stopped immediately."

R. M. Alloway
Alloway Electric Co., Boise, Idaho

Don't Risk Losses!

One needless shutdown . . . one lost motor . . . one destroyed switch or panel . . . one burned out solenoid . . . may cost you far more than replacing every ordinary fuse with a FUSETRON dual-element fuse now! Write for facts about FUSETRON dual-element Fuses.

FUSETRON
TRUSTWORTHY NAMES IN ELECTRICAL PROTECTION
BUSS

FUSETRON is a trade mark of
BUSSMANN Mfg. Co.
(Div. McGraw Electric Co.)
University at Jefferson St. Louis 7, Mo.

Start Saving with Fusetron Fuses

For more details circle NED-242 H3 on enclosed inquiry slip

For the Answer to Your Insulation Problem
LOOK THROUGH *This* LINE

Varglas Silicone retains properties at 500° F or – 85° F. **Varglas Tubing Impregnated with General Electric Permafil,** tough, flexible, heat-resistant. **Varglas Sleeving and Tubing,** numerous types and grades. **Varglas Non-Fray Sleeving,** for temperatures up to 1200° F. **Varflo Tubing and Sleeving,** made of Fiberglas, priced like cotton. **Varflex Cotton Tubing and Sleeving** where Fiberglas is not required. **Syntholvar Extruded Plastic Tubing,** made from vinyl polymers.

Free—For free folder of our complete line, just drop us a card today.

VARFLEX CORPORATION
310 N. Jay St.
Rome, N. Y.

▲ For more details circle NED-243 H3 on enclosed inquiry slip ▲

THE **Surest** WAY TO FIND HIDDEN STRAY METAL

NEW USERS of Allis-Chalmers electronic Metal Detectors are usually surprised at the large number of pieces of stray metal detected in their packages. A typical comment is "It's a wonder we have any customers left."

Fortunately not all stray metal causes injury. And in most cases the customer never writes in about it. But your reputation suffers! Precautions lessen the problem, but the surest way to catch hidden stray metal — magnetic or non-magnetic — is with an Allis-Chalmers electronic Metal Detector. Metal particles .047 inch diameter and larger are detected.

Call your nearby Allis-Chalmers Sales Office for 20 page bulletin 7217, which shows the many ways of applying A-C electronic Metal Detectors. A-3080

Allis-Chalmers
Milwaukee 1, Wis.

ALLIS-CHALMERS

▲ For more details circle NED-244 H3 on enclosed inquiry slip ▲

GREENLEE HAND BENDERS...for making small-radius bends in pipe, tubing, conduit.

Quickly make smooth, accurate bends without flattening or kinking. Ideal for conduit installations or fitting pipe and tubing on machines . . . especially designed to form neat bends for sharp corners and nooks. Various models and sizes for steel, copper, brass and aluminum tubing or pipe, rigid or thin-wall conduit.

Free Folder and Booklet on the Greenlee Bender line. Write Greenlee Tool Co., 1948 Herbert Avenue, Rockford, Illinois.

GREENLEE

▲ For more details circle NED-245 H3 on enclosed inquiry slip ▲

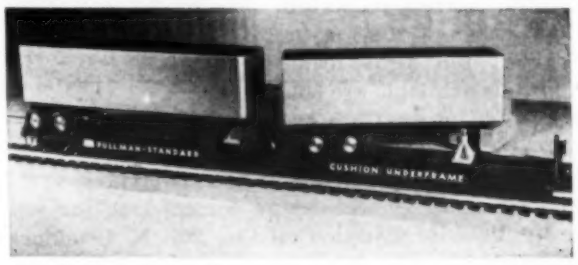
CASTER TYPE FLOOR TRUCKS can be altered to meet needs

Shipped knocked down, this all steel welded floor truck can be put together in less than five minutes. End panels slip into sockets in bottom deck, and shelves are added or removed according to need. All parts are replaceable and interchangeable without fastenings. Standard shelves are 5/8-in. plywood bound with steel angle. Steel shelves with 1-in. flange, turned up or down, are optional. Shelf and deck size is 20 x 36 in. Vehicles are equipped with two swivel and two rigid casters with hard rubber ball-bearing wheels. Available in four models, all trucks have 5-in. casters with total capacity of 500 lb. Heavy duty casters for 1500-lb loads are optional. Made by **Leebaw Mfg. Co.,** Dept. A, 65 Wayne Ave., Youngstown 2, O.

▲ For more details circle NED-246 H3 on enclosed inquiry slip ▲

CUSHION-UNDERFRAME FLAT CAR for transporting truck-trailers

Railroad transportation of truck-trailers is facilitated by this cushion-underframe flat car, a side-loading scale model of which is shown in illustration. Mer-



chandise loaded trailers are backed from car-side dock onto this flat car spotted on depressed track. Once on car, trailer is latched onto solid bumper-like bulkhead, and each trailer's king pin is set down and locked into a stanchion. Flat cars are 75 ft long and accommodate two standard cross-country trailers of 35-ft length, or three short trailers. Each assembly has center of gravity approximating similarly loaded box car. Made by **Pullman-Standard Car Mfg. Co.,** Dept. CU, 79 E. Adams St., Chicago, Ill.

▲ For more details circle NED-247 H3 on enclosed inquiry slip ▲

Hard Surfacing Electrodes

Lincoln Electric Co.—Practical guidance in the selection and application of hard surfacing electrodes for protection from abrasion, friction, impact and corrosion is presented in 20-page illustrated bulletin 466 entitled "Weldirectory for Hard Surfacing." Charts and tables give data on various hard surfacing electrodes.

▲ For more details circle NED-248 H3 on enclosed inquiry slip ▲

FOR BETTER CONTROL IN THE TIGHT SPOTS

CRANE IRON BODY CLAMP GATE VALVES

Here's an inexpensive, versatile gate valve with a special talent for tight places. It's unusually compact and extra sturdy. You can use it for steam, hot and cold water, for crude, fuel and lubricating oils, and for gas and gasoline services. All-iron inside screw valves have one-piece, free-draining bonnet. Ideal for handling heavy, sticky fluids. For inspection or cleanout, the bonnet assembly and wedge disc lift out easily—the body stays in the line. And you'll have no trouble in reassembling—the bonnet joint always makes up tight and stays tight.

Send for Folder AD 1667 or ask your Crane Representative for full details.

Crane Wedge Disc Clamp Gate Valves come in OS&Y, inside screw, and quick-opening patterns, all-iron or brass trimmed. Sizes up to 4 in. Working pressures up to 150 psi saturated steam.

CRANE CO., 836 S. Michigan Avenue, Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

CRANE *Everything for Every Piping System*

VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

▲ For more details circle NED-249 H3 on enclosed inquiry slip ▲

When heavy, unwieldy weldments like these diesel crank cases can be quickly swung into any position so that every weld is made downhand—that's efficient welding.

Welders spend more time welding—do better welding at lower cost when they work with C-F Positioners because these hand and/or power operated machines reduce positioning time to a minimum. Investigate the cost saving advantages of C-F Positioners. They pay their way in any company.

Write for Bulletin WP 24—an illustrated circular detailing the Specific Advantages of C-F Positioners.

CULLEN-FRIESTEDT CO.
1304 S. Kilbourn Chicago 23, Ill.

▲ For more details circle NED-250 H3 on enclosed inquiry slip ▲

ANOTHER ADHESIVE PROBLEM SOLVED WITH *Pliobond*

Unique machine* that coats fabric with PLIOBOND, winds it on tube, cures assembly, cuts to length and chamfers the ends of each tube in a continuous operation. Photo courtesy The L. F. Kreger Manufacturing Co., Chicago, Ill. *Patent applied for

RAPID DRY AND SOLVENT RESISTANCE produces better paint rollers faster

The L. F. Kreger Manufacturing Co. had their own ideas on how to make better paint rollers. They developed a machine that automatically produces a complete, solvent-resistant applicator tube in only 11 seconds—and at one-fifth the usual, hand labor cost.

Key to the operation of this high-speed machine was the adhesive used to bond the fabric to the phenolic impregnated core. It had to apply easily, dry fast and give a lasting bond despite exposure to various paint solvents, including water.

Answer to the problem was PLIOBOND—Goodyear's adhesive that "bonds anything to anything." After a "most extensive survey," only PLIOBOND was found to fit the fast production cycle and give the permanent bond needed. It may well solve your production problems, too. For full information, write to:

Goodyear, Chemical Division, Akron 16, Ohio

CHEMICAL GOODYEAR DIVISION

Use-Proved Products
CHEMIGUM • PLIOBOND • PLIOLITE • PLIOVIC • WING-CHEMICALS
The Finest Chemicals for Industry

Chemigum, Pliobond, Pliolite, Pliovic—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

▲ For more details circle NED-251 H3 on enclosed inquiry slip ▲

Aerovent FAN

BELTED DUCT FAN

KEEPS MOTOR OUT OF AIR STREAM

For Foundries, Paint Spray Booths, Sanding, Acid Tank Rooms, etc. where fan motors must be protected.

Aerovent Belted Duct Fans with "Machéta" design handle maximum air with minimum use of power. Sizes 12" to 84"; 2, 4, or 6 blades. All fans furnished with ball bearing motors suitable for mounting in any position. Easily installed. For many applications.

Certified Ratings — PFMA

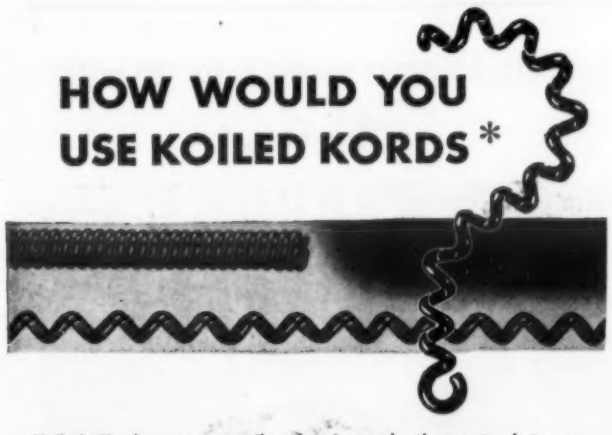
Other Models: Direct Connected Man Cooling, Extended Shaft, Duct Type, Pulley Drive.

Write today for ENGINEERING BULLETIN

AEROVENT FAN CO., INC.
ASH AND BROWN STREET, PIQUA, OHIO
Sales Engineers in Principal Cities

For more details circle NED-252 H3 on enclosed inquiry slip

HOW WOULD YOU USE KOILED KORDS*



Koiled Kords are retractile electric cords that extend to approximately five times their coiled length and retract to their original shape and size.

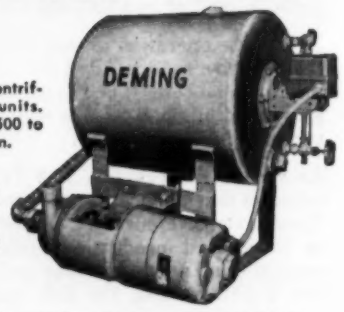
Koiled Kords are made under a patented process that eliminates sagging or bagginess — the coil is always tight when retracted, yet it extends easily to its full length. Koiled Kords have innumerable uses in communications, home and industry — **HOW WOULD YOU USE THEM?** *trade mark

Write on your business stationery for a sample of Koiled Kords.

Koiled Kords INCORPORATED
BOX K, HAMDEN, CONNECTICUT
IN CANADA: R. D. FLECK & CO., LTD., OSHAWA, ONTARIO

For more details circle NED-253 H3 on enclosed inquiry slip

DEMING CONDENSATION RETURN UNITS



(Above) Fig. 4958 "Hotshot" centrifugal jet condensation return units. Capacities cover a range of 500 to 10,000 square feet of radiation.

(Right) Fig. 4301 "Motor Mount" centrifugal pump condensation return units cover a range from 2,000 to 40,000 square feet of radiation.

These modern, efficient "fuel-savers" return the condensate from steam coils, radiators, or steam-operated equipment back to the boilers.

Deming "Hotshot" units are unusually compact and require very little floor space.

Deming "Motor-Mount" units are made in Single and Duplex models. Motors have standard "NEMA" type "C" mounting flange and are furnished for single phase, two or three phase or direct current, as specified.

Write for BULLETIN NO. 4400 which includes performance tables of capacities, pressures, and other useful data.

THE DEMING COMPANY
520 BROADWAY • SALEM, OHIO

For more details circle NED-254 H3 on enclosed inquiry slip

HYDRAULIC CYLINDERS
1½ through 8-in. bores available

Key type hydraulic cylinders are available in 1½ through 8-in. bores with any stroke length up to 18 ft. As a result of key type construction, pipe ports can be oriented at random through the full 360 degree rotation of the cylinder ends. Design features include long Meehanite rod bearing, quickly replaceable Chevron type packing and bearing insert and cast steel mounts unitized with the cylinder head and rod caps. An internal locking key ring fastens the head and cylinder wall. Heavy wall tubing, chrome plated rods, rod scraper and milled wrench flats on rods are standard. Made by **Carter Controls, Inc.,** 2876 Bernice Rd., Lansing, Ill.

For more details circle NED-255 H3 on enclosed inquiry slip

STUD DRIVER
cartridge type has permanent shield

A permanently attached shield which can be lifted and swiveled for close-quarter work is a design feature of the Velocity-Power Driver cartridge-actuated tool for setting studs in concrete or steel. Gun uses integral stud-cartridge and has interchangeable barrels to permit driving either ¼ or ⅜-in. studs with the same firing unit. Studs available are solid head, or internal or external threaded. Spring-loaded safety arm and center-fire cartridges avoid accidental discharge and assure correct load for job. Made by **Velocity Power Tool Co.,** 203 N. Braddock Ave., Pittsburgh 8, Pa.

For more details circle NED-256 H3 on enclosed inquiry slip

FLOW RATE METER
also for use on purging lines

Housed in an aluminum case with plastic front to protect its graduated glass tube, the Tel-Flo meter is used for measuring flow rates and purging lines. Durable and accurate instrument can be furnished with aluminum, brass, stainless steel or any other metal body and is suitable for a maximum pressure of 300 psi, or higher upon request. It is furnished with or without control valve and with top, back or side connection. Made by **Uehling Instrument Co.,** 473 Getty Ave., Paterson 3, N. J.

For more details circle NED-257 H3 on enclosed inquiry slip

You Can Take the Word of 50,000 Firms

That SPEED SWEEP Floor Brushes Sweep Cleaner, Faster and Outlast Ordinary Brushes

Unique in design and construction, Speed Sweep so far outperforms and outlasts other floor brushes that over half of the nation's top rated firms use Speed Sweep under widely diversified sweeping conditions. We know Speed Sweep can do a better job for you, too. In fact, we guarantee it. We invite a trial order on that basis. Write for complete facts, including styles, sizes and prices today.

MILWAUKEE DUSTLESS BRUSH CO.
530 N. 22 STREET, MILWAUKEE 3, WISCONSIN

For more details circle NED-258 H3 on enclosed inquiry slip

SURETY

Protective Aprons and Sleeves

DEEP-BOND COATING LASTS LONGER

Sureseal synthetic rubber, or Neoprene or Vinyl forced into the warp of strong fabric by Surety's Deep Bond Process.

Tests show greatly improved chemical resistance, longer wear.

Resulting in savings for you in apron and sleeve costs.

Available in both Sureseal synthetic rubber, or Neoprene or Vinyl coated one or both sides, variety of sizes.

Write for complete data and prices.

THE SURETY RUBBER CO. CARROLLTON, OHIO

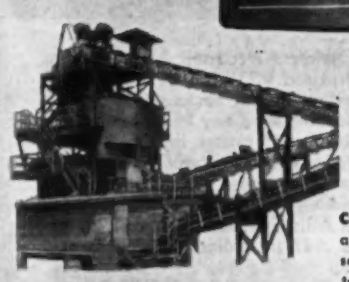
For more details circle NED-259 H3 on enclosed inquiry slip

BEAT the HIGH COST of LIFTING

with efficient time-saving...

Hi-Speed job-fitted

BAUGHMAN CONVEYING EQUIPMENT



MODEL 225

Conveyor Combinations assembled from standardized sections. Quickly "job-fitted" to any bulk material handling problem. Prompt delivery from stock. Bulletin A-342.

MODEL Q-51

Hi-Speed Screw Conveyor for material that rolls or becomes fluid in motion. Permanent installations or portable models as above. Underbin and undertrack screw loaders easily attached. Write for Bulletin A-295.

MODEL 175

Belt and Bucket Elevator. Fully enclosed buckets, centrifugal discharge elevator for permanent or temporary installations. Also open belt and bucket models, 210 and 220 available. Write for Bulletin A-299.

MODEL 230

Portable Troughed Belt Conveyor . . . standardized and "job-fitted" to your needs. In lengths up to 46 ft. Powered by gasoline or electric motor. Write for Bulletin A-296.

BAUGHMAN

BAUGHMAN Mfg. Co., Inc.
116 Arch St. Jerseyville, Ill.

For more details circle NED-260 H3 on enclosed inquiry slip

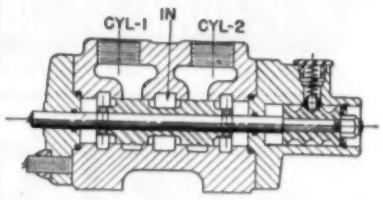
BELT CONVEYOR
installs close to floor

Featuring side mounted drive motor to permit installation close to floor, this belt conveyor is designed either for horizontal or medium incline applications. It replaces hand trucks for loading and receiving where transports cannot reach the storage and receiving areas. Model illustrated is 15-in. high by 65-ft long. Its 18-in. resin impregnated belt is driven by 5-hp motor and 12-in. drive pulley at 60 fpm. Rollers and slide beds under belt provide 60 lb per ft capacity. Made by **Metzgar Co.**, 416 Douglas St. N.W., Grand Rapids 4, Mich.

▲ For more details circle **NED-261 H3** on enclosed inquiry slip ▲

HYDRAULIC VALVE
is four-way ball detent type

Ball detents designed in series 5130, 5160 and 5170 floating piston four-way valves permit valve to be mounted vertically or horizontally and prevent vibration from causing piston movement. Valve is offered with one, two or three detents for holding piston in center position, either end position, or in both end and center positions. Valves are made for 1500 psi line pressures and with threaded stem, lever and knob operation. Sizes are ¼, ⅜, ½, ¾, 1, 1¼ and 1½ in. Five piston designs meet requirements of any hydraulic circuit. Made by **Rivett Lathe & Grinder, Inc.**, Dept. NEP-2, Brighton 35, Boston, Mass.



▲ For more details circle **NED-262 H3** on enclosed inquiry slip ▲

SNAP-ACTION SWITCHES
for one-way actuation by cams, dogs or slides

Designed for one-way actuation by cams, dogs or slides, two precision Micro snap-action switches have spring-loaded, hinged roller arm actuators. Model BZ-2RW825 requires an operating force of 8 oz, release force of 1½ oz minimum and has a differential travel of 0.015-in. maximum. Model BZ-2RW826 requires an operating force of 2½ to 6½ oz, release force of 1¼ oz minimum and has differential travel of 0.003 to 0.020-in.

Both are listed by Underwriters' Laboratories for 15 amp, 125, 250 or 460 v ac; ½-amp, 125 v dc; ¼-amp, 250 v dc. Switches can be used to provide an electrical impulse to relays or solenoids. Both are single-pole, double-throw and have either solder lug or screw terminals. Made by **Minneapolis-Honeywell Regulator Co.**, Micro Div., 205 S. Chicago Ave., Freeport, Ill.

▲ For more details circle **NED-263 H3** on enclosed inquiry slip ▲

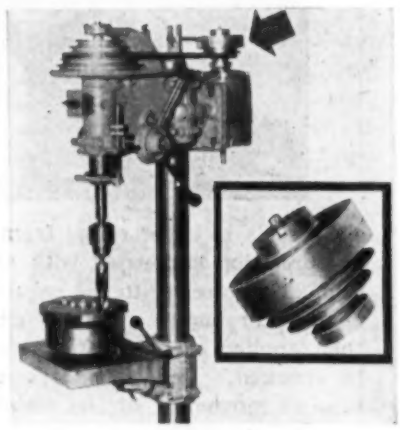
OVERHEAD CABLE CONVEYOR
100 and 200 lb per trolley capacities

Designed with a ⅜-in. cable, the Buschman overhead cable conveyor is capable of operating with loads of 100 and 200 lb per trolley unit, depending upon whether standard or Dubl-Duty wheels are used. Previously announced conveyor with ¼-in. cable had somewhat lower ratings. Track is standard 3-in. I-beam. Cable is preformed 7 x 19 aircraft or stainless steel type and trolley spacing is 16 in. on immovable centers. Bushings are swaged on the cable at factory or in the field and hold with strength equal to that of cable itself. Cable splicing is easy. Trolleys bolt over bushings. Two drives, rated at 750 and 1500 lb, are available, each capable of pulling loads up to 30 times their rating. Made by **E. W. Buschman Co.**, 4401 Clifton Ave., Cincinnati 32, O.

▲ For more details circle **NED-264 H3** on enclosed inquiry slip ▲

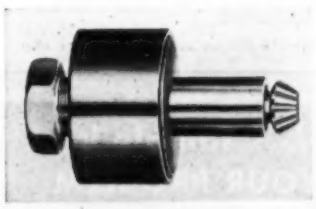
SPEED-REDUCING PULLEYS
three new models available

Making possible drilling up to 1⅜-in. steel on light drill presses, three improved models of the Pull-Gear speed reducing pulley (*NED, Dec.* '52) are now available. Each of the units is adaptable to motor shaft sizes of ½, ⅝ and ¾-in. through the use of either of two reducing sleeves. Units can thus be transferred to various machines with different motor shaft sizes. Made by **Pull-Gear Co.**, 4120 E. Eight Mile Rd., Detroit 34, Mich.



▲ For more details circle **NED-265 H3** on enclosed inquiry slip ▲

TURRET DRILLING ATTACHMENT
for single spindle automatics



Providing concentricity and eliminating drill whip up to 8000 rpm, Drill-Tru attachment for single spindle automatic screw machines has capacity from 0.004 to 0.125-in. drill sizes. Unit is available in right or left hand drive, is easy to install and is equipped with durable double row radial ball bearings. Made by **Drill-Tru**, Dept. H, 5404 Alhambra Ave., Los Angeles 32, Calif.

▲ For more details circle **NED-266 H3** on enclosed inquiry slip ▲

LABELING TAPE
now prepared for typewriter use

Now available bound in tablet form for typewriter use, Labelon marking tape sticks without moistening to any smooth clean surface. It can also be written on with pencil or stylus. Pressure of the writing instrument causes writing to appear beneath a thin plastic protective coating, which is resistant to most acids and chemicals, dust, oil and water. Labels withstand temperatures from −40 to 150° F, and do not curl or discolor with age. They are available in a variety of border colors for coding purposes. Made by **Labelon Tape Co.**, 20 Greenleaf St., Rochester 9, N. Y.

▲ For more details circle **NED-267 H3** on enclosed inquiry slip ▲

CRANE TRUCK LIFT
for overhead maintenance jobs

Difficult or otherwise inaccessible overhead maintenance jobs can be done with aid of the Tey Hydro Sky-Lift attachment for Yale crane trucks. Basically, device is large articulated arm which can lift 500-lb load from floor and hold it at any point within upper half of sphere 26 ft in radius. From truck base it can stretch to working height of 34 ft from ground. At end of boom are one or two crow's nests, each large enough for man to work in comfortably. These contain the hydraulically operated crane controls. Truck has heavy duty chassis equipped with hydraulic over-the-side outriggers for stability even with boom extended. Made by **Yale & Towne Mfg. Co.**, Dept. M-1, Roosevelt Blvd. & Haldeman Ave., Philadelphia 15, Pa.

▲ For more details circle **NED-268 H3** on enclosed inquiry slip ▲

TRANSFER BRIDGE
for plant railroad tracks

Providing a short-cut bridge across in-plant railroad tracks, Oil-draulic Transfer Bridge lowers to become integral with the train track system. In addition to the recessed-rail type (pictured), rotating and drawbridge types are available for different plant situations. Rotating type is used between double tracks and fits between them when not in use. Drawbridge-type is used for short spans where there is sufficient overhead clearance. Units are hydraulically powered. Made by **Rotary Lift Co.**, 1099 Kentucky, Memphis 2, Tenn.

▲ For more details circle **NED-269 H3** on enclosed inquiry slip ▲

DO YOU KNOW? Microwaves, similar to those used in coast-to-coast television, will be used on the 90-mile railroad which transports iron ore from U. S. Steel's Cerro Bolivar mine to harbor facilities at Puerto Ordaz in Venezuela for the control of switches, signals and interlockings. Two electronically-governed passing sidings are incorporated in system. Electronic equipment is furnished by Radio Corp. of America and Westinghouse Air Brake Co., Union Switch & Signal Div., 1789-1807 Braddock Ave., Pittsburgh 18, Pa.

DO YOU KNOW? Developed especially for coating of aluminum by DuPont, FTE (Fritted Trace Elements) melts at 1000° F. Frit is applied with ordinary enameling and firing procedures after the aluminum is prepared, except that lower temperatures must be used. Development permits use of light gage aluminum in products. To be marketed by Ferro Corp., Dept. P, 4150 E. 56th St., Cleveland 5, O.

DO YOU KNOW? The dramatic results obtainable by coating alloy steels subjected to high temperature service with Soloramic coatings are demonstrated in samples contained in folder. Included among samples is one which was half coated and half uncoated which has been subjected to 10 hours of service in hot corrosive gases. Untreated portion is practically destroyed. Folder is available from Solar Aircraft Co., 2202 Pacific Highway, San Diego 12, Calif.

DO YOU KNOW? Silicone rubber parts can now be produced in molds originally designed for natural and synthetic rubber parts. SE-360 silicone rubber is low compression set and has only half the shrinkage after molding of conventional silicone rubber. Parts are recommended particularly for capacitor bushings and for O-rings and packings in engines where seals must remain effective under sustained pressure. Samples and data sheets will be supplied by General Electric Co., Silicone Products Dept., Waterford, N. Y.

DO YOU KNOW? "Applied Magnetics" is a new technical house organ which will be published bimonthly for engineers, production men and purchasing agents who deal with products employing permanent magnets. Among subjects to be covered will be applications in radio, electronic and sound equipment; instruments and controls; generators and motors; magnetic chucks, conveyors, separators and tools; vending equipment; and games, toys, compasses and novelty devices. To get on mailing list, write Indiana Steel Products Co., Dept. A, Valparaiso, Ind.

DO YOU KNOW? It is possible to recover nearly 100 per cent of heretofore wasted chromic acid from rinse water for reuse. Process employs iron exchange resins which can be used for 100 or more cycles. Demineralized water for use in rinsing and in solutions is byproduct of process. Developed by Barnstead Still & Sterilizer Co., 103 Lanesville Terrace, Forest Hills, Boston 31, Mass.

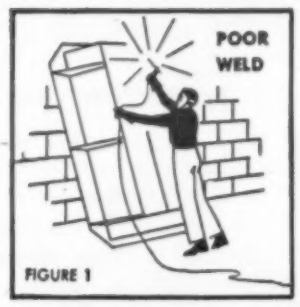


FIGURE 1

FIGURE 2

How Worthington Welding Positioners help your welders produce BETTER WELDS

When your welder has to climb over, prop, or flop the work, he's wasting time and can only obtain good downhand welding over a limited area (Figure 1). With a Worthington Welding Positioner, the work is quickly tilted or rotated automatically into position for correct downhand welding. Write for Bulletin 210D. Worthington Corporation, Plainfield, N. J.

Y.2.5

WORTHINGTON

Welding Positioners—Turning Rolls

▲ For more details circle NED-271 H3 on enclosed inquiry slip ▲

3 WAYS

to glamorize "hard-to-dress-up" products

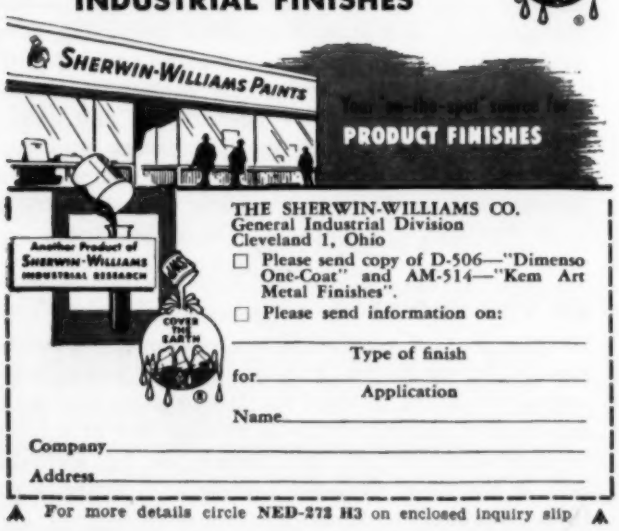
Here's how to get attractive, textured and third dimensional effects . . . conceal surface blemishes, weld marks, minor imperfections . . . cover defects. A choice of three ways provides a variety of interesting patterns, infinite shadings of tone—

1. **Dimenso® One-Coat "Hammered" Metallic**—Produces a striking, deep-toned, 3-dimension hammered pattern with a single material, in a single coat.
2. **Dimenso® One-Coat Opalescent**—By modifying the method of application, a variety of rich opalescent effects can be obtained.
3. **Kem® Art Metal**—Durable and distinctive non-metallic wrinkle finishes. Makes possible highly decorative effects.

Get the facts on these and others of the complete S-W line of quality industrial finishes from your nearby Sherwin-Williams Branch. Consult your classified telephone directory for location. Or mail the coupon below for brochures.

Services of trained industrial finish specialists available in your area through nearest Branch.

SHERWIN-WILLIAMS
INDUSTRIAL FINISHES



THE SHERWIN-WILLIAMS CO.
General Industrial Division
Cleveland 1, Ohio

☐ Please send copy of D-506—"Dimenso One-Coat" and AM-514—"Kem Art Metal Finishes".

☐ Please send information on:

_____ Type of finish

for _____ Application

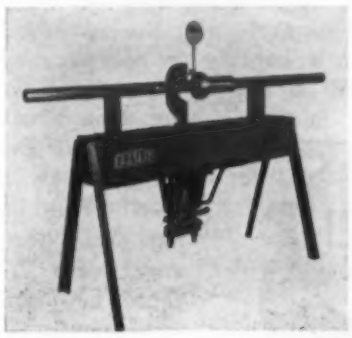
Name _____

Company _____

Address _____

▲ For more details circle NED-272 H3 on enclosed inquiry slip ▲

STRAIGHTENING PRESS
handles pieces 1 to 10 ft long



Shafts, bars, work pieces or machinery parts from 1 to 10 ft long are easily straightened on this press which is shipped knocked down, complete with pump, V-blocks, dial indicator and instructions for assembly. Unit features sawhorse type frame and underslung hydraulic pump and cylinder which are fastened to shaft by means of open-throat clamp. Pressure on shaft is exerted at one or more points along its length until dial indicator mounted on frame shows identical reading at each point. V-blocks as well as hydraulic pump can be moved along 65-in. long bed, making it possible to straighten pieces of various lengths. Made by **Lempco Products, Inc.**, 5498 Dunham Rd., Bedford, O.

▲ For more details circle NED-273 H3 on enclosed inquiry slip ▲

TENSION GAGES
capacities range from 4 to 2500 gram

Spring tensions and any other resistive force can be easily and accurately checked with GEC tension gages. These portable instruments are available in

six models to cover range from 4 to 2500 grams and are precision calibrated with adjustable zero correction. They are set to the required tension by knurled micrometer screw. End of gage operating strip is then applied to point at which opposing force is to be checked. Deflection of operating strip at same time as movement of the resisting element indicates that opposing force is equal to gage setting. Made in England and distributed by **IMTRA Corp.**, 58 Charles St., Cambridge, Mass.

▲ For more details circle NED-274 H3 on enclosed inquiry slip ▲

Slide Switches

Stackpole Carbon Co., Electronic Components Div. —A comprehensive selection of inexpensive line and slide switches for radio, toy, TV, appliance, small motors and instrument control use is offered in 16-page illustrated bulletin RC-9B. Ratings, dimensions and application data are included.

▲ For more details circle NED-275 H3 on enclosed inquiry slip ▲

This TUFFLEX sample kit MAY SOLVE YOUR PROBLEM

Seeing is believing—and this kit, containing actual samples of Tufflex may point the way to new product improvements and cost-saving for you. Tufflex is the amazing felted cellulose fiber that's fleecy, soft and tough at the same time. Tufflex resists heavy impact blows—die-cuts with clean edges—insulates—absorbs sound. Its wonderful flexibility suits it to a wide variety of uses. Send now for your free Tufflex sample kit and full information. Wood Conversion Company, Dept. 127-83 First National Bank Building, St. Paul 1, Minnesota.

Keep Your Eyes On . . . **TUFFLEX***

Cellulose Cushion Padding

*REG. U.S. PAT. OFF.

▲ For more details circle NED-276 H3 on enclosed inquiry slip ▲

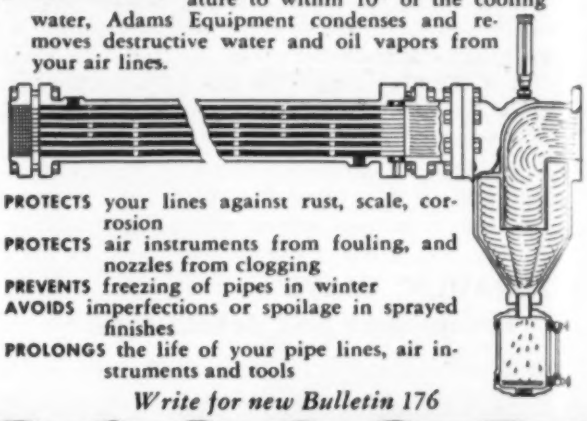
You Can be Sure of Clean Dry Air for your Compressed Air Tools

3500 Gallons

1 YEAR'S water extraction from air lines equipped with Adams Aftercooler and Cyclone Separator.

with ADAMS Aftercooler and Cyclone Separator

● Reducing compressed air temperature to within 10° of the cooling water, Adams Equipment condenses and removes destructive water and oil vapors from your air lines.



PROTECTS your lines against rust, scale, corrosion
PROTECTS air instruments from fouling, and nozzles from clogging
PREVENTS freezing of pipes in winter
AVOIDS imperfections or spoilage in sprayed finishes
PROLONGS the life of your pipe lines, air instruments and tools

Write for new Bulletin 176

R. P. ADAMS CO., INC. 227 E. PARK DRIVE BUFFALO 17, N. Y.

▲ For more details circle NED-277 H3 on enclosed inquiry slip ▲

FLOOR TRUCKS

"KEEP LOADS ALIVE"

STANDARD SIZES & TYPES
SPECIAL DESIGNS
VARIOUS TYPE WHEELS:
IRON - RUBBER - PNEUMATIC

Write for catalog

ORANGEVILLE MFG. CO.
Orangeville 12, Pa.
"Since 1879"

FLOOR TRUCKS ORANGEVILLE

▲ For more details circle NED-278 H3 on enclosed inquiry slip ▲

POWER DISTRIBUTION IN MODERN PLANTS
INCLUDE
Acme Electric
DRY TYPE TRANSFORMERS

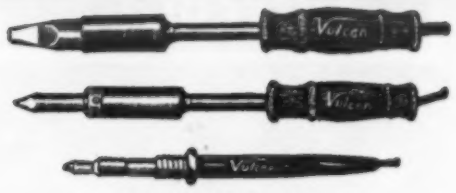
Departmentalizing the distribution of power, simplifies installation, maintenance and expansion of manufacturing facilities. This is readily accomplished by high voltage feeders to Acme Electric Dry Type Air Cooled transformers which become the distribution point for lower voltage lines. Acme Air Cooled transformers are designed in capacities from 1/10 KVA to 167 KVA, single phase and 9 KVA to 500 KVA, 3 phase. Write for Bulletins 185 and 186.

ACME ELECTRIC CORPORATION
308 WATER ST. CUBA, N.Y.

Acme Electric

▲ For more details circle NED-279 H3 on enclosed inquiry slip ▲

VULCAN
ELECTRIC SOLDERING TOOLS



A Complete Line

of fine professional Electric Soldering Tools. Three types. 18 sizes, from 1¾" diameter tip for the heaviest soldering to ⅛" tip for the most delicate work. Tips are of finest forged copper (Catalog will be sent by return mail)

LENGTHEN THE LIFE of your Soldering Tools with Vulcan DUREVER (ironclad) Soldering Tips of pure forged copper with a special metal coating that protects the copper from corrosion and oxidation. DUREVER Tips outlast ordinary copper tips, do away with dressing and filing. (Ask for folder that tells why.)

VULCAN ELECTRIC CO.
Danvers 7, Mass.

Vulcan Electric Soldering Tools, Solder Pots, Glue Pots, Branding Irons. Vulcan Electric Heating Elements.

For more details circle NED-280 H3 on enclosed inquiry slip

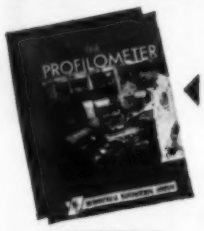
You can MEASURE the ROUGHNESS of practically ALL surfaces

✓Internal and External ✓Flat and Round

with the PROFILOMETER

✓In the shop ✓Quickly ✓In microinches

...thereby saving time and money in unexpected ways!



FREE BULLETIN LT77 gives details — describes production and quality control applications. Write for it!

Profilometer is a registered trade name.

MICROMETRICAL MANUFACTURING COMPANY
345 S. MAIN ST. ANN ARBOR 9, MICHIGAN

For more details circle NED-281 H3 on enclosed inquiry slip

Femco COMMUNICATION

Femco CRANEPHONES
Talk from cab to floor and cab to cab

Femco AUDIOPHONES
Fixed-point industrial communication

Femco PAGEPHONES
Flexible inter-com and page systems

Femco PORTAPHONES
Movable as your work progresses

Efficiency is improved—production goes up, when Femco equipment is installed. Consider: as many mike-speaker stations as you need, moving or stationary, anywhere in your plant, office or yard.

DEMONSTRATIONS ARRANGED

ASK FOR YOUR FEMCO DATA KIT

FARMERS ENGINEERING & MANUFACTURING COMPANY
IRWIN, PENNSYLVANIA

SPECIALISTS IN ELECTRONIC Communication and Control

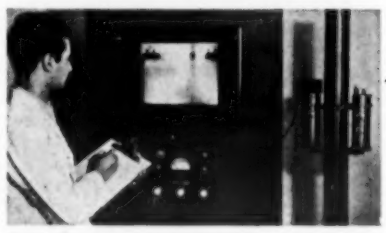
For more details circle NED-282 H3 on enclosed inquiry slip

INDICATING CONTROLLER has anticipating action

Model 221C Capacitrol indicating controller incorporates a resistor network and relay circuit that anticipates the approach and departure of temperatures caused by various heat transfer lags and load requirements. Also being introduced are four model 200 series Capacitors, two for "on-off" control and two for proportioning control. All models have the "electronic link" which provides fast and accurate control with no contact between measuring and control system. Interchangeable voltage plugs are provided for 115 and 230 v ac. A thermocouple or resistance bulb can be used as a sensing element. Made by **Barber-Colman Co.**, Wheelco Instruments Div., 1514 Rock St., Rockford, Ill.

For more details circle NED-283 H3 on enclosed inquiry slip

SPECIFIC GRAVITY METER measurement is by radioactivity



Specific gravity of liquids, slurries, sludges or granular materials flowing through process pipes or pipelines can be measured by the series SG meter, which utilizes radioactivity for measuring purposes. Measurements are made at operating pressures and temperatures and generally with no direct contact with process materials. Variation in specific gravity can be measured over a range of 0 to 0.500 change above any minimum value, accurate within 0.005 in any range. Models are available in eight standard ranges from 0.500 to 2.750. Standard measuring unit fits pipes from 3 to 6 in., mounting externally on brackets. A cable connects measuring cell to amplifier, which can be up to 200 ft away. Measurements can be transferred to any standard single-record potentiometer recorder having a range of 0-20 mv full scale. Made by **Ohmart Corp.**, Dept. 10429, 2347 Ferguson Rd., Cincinnati 38, O.

For more details circle NED-284 H3 on enclosed inquiry slip

Electric Hammers

Tempo Products Co.—"Super Slugger" electric hammers and tools are described in data sheet, which reports that special impact motion eliminates kick, direct vibration and operator fatigue. Weight of the hammer is 7½ lb, and it delivers 3000 positive blows a minute. Twenty-two different tools make for versatility in application.

For more details circle NED-285 H3 on enclosed inquiry slip

Commander TAPPER

★ Wider Range...1 Tapper Handles #0 to ¾" Taps

★ Automatic Tap Protection

★ Furnished to fit any Drill Press

Commander—"The Tapper That Thinks For Its Operator," has the adjustable full range torque control that instantly stops any tap when it becomes dull, loaded, strikes a hard spot or bottoms in blind hole tapping. Assures maximum tap protection, higher production, even with inexperienced operators.

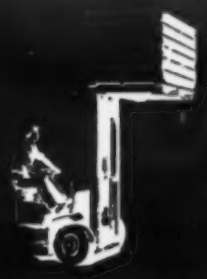
Your nearby Commander Distributor can give you a demonstration in your own plant. Write for his name and a copy of the NEW Commander Full Line Catalog #851

COMMANDER MFG. CO.
4220 W. Kinzie St. Chicago 24, Ill.

Product of Commander... Builder of Production Tools

For more details circle NED-286 H3 on enclosed inquiry slip

Generalift ★★★★★ PALLET BOXES



cut materials handling costs 50%

WRITE US FOR DETAILS

Send for your Free Copy of "THE GENERAL BOX"

General ★★★★★ BOX COMPANY
GENERAL OFFICES: 1859 MINER STREET DES PLAINES, ILLINOIS
FACTORIES: Cincinnati; Danville, N. J.; Detroit; East St. Louis; Kansas City; Louisville; Milwaukee; Prescott, Ark.; Sheboygan; Winchendon, Mass. General Box Company of Mississippi, Meridian, Miss. Continental Box Company, Inc., Houston

For more details circle NED-287 H3 on enclosed inquiry slip

Bendix automotive Electric Fuel Pump

Unmatched for LONG LIFE and RELIABILITY

Dependable as no Fuel Pump has ever been under all operating conditions

Performance Proven. Years of research, development, and rigorous tests have been made on this pump.

Longer Life—No Pressure Drop. No bearings or levers to wear; no diaphragm to fatigue.

Delivers More Gallons Per Hour. Can deliver more than 30 gallons output per hour. Two or more pumps can be manifolded.

Economical Operation. Low original cost and *long dependable life* make this fuel pump the best buy on the market.

Improves Low Temperature Starting. Tests prove that engines start at 10 to 15 degrees lower with the Bendix Fuel Pump.

Eliminates Vapor Lock. Assures a constant, dependable supply of fuel in the hottest weather.

Low Power Requirements. Only 7 watts at maximum fuel delivery.

Dependable Operation at 75° Below Zero. That's why the U. S. Army Ordnance Corps chose it to pump fuel to heaters in the extreme cold of the Arctic.

Easy to Install—Easy to Service—Tamper-Proof. Simple two-bolt mounting. No adjustments. Electrical system, sealed *in helium*, insures longest possible life.

Light Weight—Compact. A giant in output but a midget in weight—one pound, thirteen ounces.

WRITE TO DEPT. J

Eclipse Machine Division
Elmira, New York · Division of Bendix

For more details circle NED-288 H3 on enclosed inquiry slip

DOUBLE YOUR MONEY BACK!

● Users tell us that MICRO-KLEAN cartridges have twice the effective life of ordinary filter cartridges. But we'll leave it up to you. Try a MICRO-KLEAN cartridge. If it doesn't outperform any cartridge you've previously used, we'll send you double your money back. (Standard cartridges are 9¾" long x 2¾" O.D., in densities of 10, 25 and 50 microns.) Write to Cuno Engineering Corp., Dept. 709M South Vine Street, Meriden, Conn.

▲ For more details circle **NED-289 H3** on enclosed inquiry slip ▲

CYLINDERS.
Single acting
Double acting
Telescopic

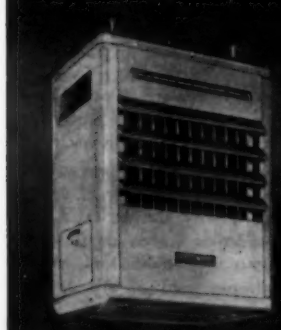
COMMERCIAL HYDRAULIC OIL
Fluid Power Controls
are REDUCING COSTS and INCREASING PRODUCTIVITY for the home building industry.

FOR COMPLETE DETAILS ASK FOR YOUR COPY OF CATALOG H-7

THE "COMMERCIAL" SHEARING AND STAMPING COMPANY
YOUNGSTOWN, OHIO · CHICAGO, ILL. · SALT LAKE CITY, UTAH

▲ For more details circle **NED-290 H3** on enclosed inquiry slip ▲

REZNOR
GAS UNIT HEATER



the world's largest-selling GAS UNIT HEATER
Invites Your Consideration
★ Low First Cost
★ Low Noise Level
★ High Efficiency
★ High Value

See Sweet's Catalog Files or Mail the Coupon Today

REZNOR MANUFACTURING COMPANY
41 UNION ST. · MERCER, PENNA.

NAME_____
FIRM_____
ADDRESS_____
CITY_____ ZONE_____ STATE_____

I am an ☐ ARCHITECT ☐ BUILDER ☐ HEATING ENGINEER

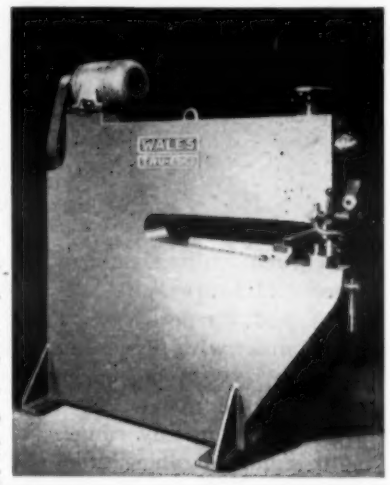
▲ For more details circle **NED-291 H3** on enclosed inquiry slip ▲

FLAME CUTTING EQUIPMENT
scarfs edges of curved sections

Semiautomatic in operation, this flame cutting machine scarfs the edges of curved metal sections in preparation for welded assembly. Cutting head and flame slant at constant angle from the scarf apex to be generated, and are motor-driven around the section on matching rollers individually designed for each job. Scarf apex tolerances can be held to within 1/32-in. A typical unit holds casting measuring 4 x 8 ft, and permits cuts of 16 linear ft along three sides at 22 degrees from the horizontal. Metals from ¼ to 8-in. thick can be cut, and cutting speeds up to 15 in. a minute are obtainable. Made by **Milwaukee Shipbuilding Corp.**, Dept. A, 3718 W. Lancaster Ave., Milwaukee 9, Wis.

▲ For more details circle **NED-292 H3** on enclosed inquiry slip ▲

STEEL EDGING SHEAR
performs various operations



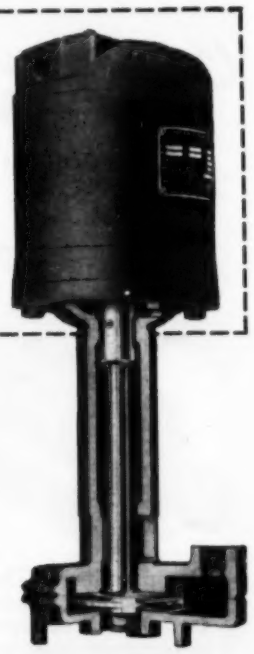
Contour and straight inside and outside shearing, beading, louvering and joggling can be performed by the Giant model Tru-Edge shear, designed with a capacity up to 9/32-in. thick mild steel. Shearing principle incorporated eliminates resistance to feeding and turning the work. Feeding can be started while the ram is operating and inside cutting requires no starting holes. Material is not punched but sheared to provide a smooth cut edge. Bottom die is adjustable for various thicknesses. Shear cuts from 10 to 36 fpm and throat depth is 36½ in. Made by **Wales-Strippit Corp.**, 363 Payne Ave., North Tonawanda, N. Y.

▲ For more details circle **NED-293 H3** on enclosed inquiry slip ▲

DO YOU KNOW? A miniature sample of a circular-bottom polyethylene drum liner as well as stock sizes and technical information are contained in kit on use of plastic drum liners. Photographs show how both wet and dry materials are filled into lined drums and how liners are closed. Offered by Mehl Mfg. Co., Dept. DR, 2057 Reading Rd., Cincinnati 2, O.

▲ For more details circle **NED-294 H3** on enclosed inquiry slip ▲

Motor-Driven Centrifugal Pumps That Dirt Can't Hurt!



Here's a complete line of ten different Motor-Driven Centrifugal Pumps that are completely protected from damage by dirt or abrasives. Hydraulically balanced, their design eliminates metal-to-metal contact below water level. Motors are of standard NEMA design, for easy replacement, and totally enclosed against dust or vapor.

You'll find that the design simplicity and sound construction of these Brown & Sharpe Pumps make them ideal for countless applications where grit or foreign substances may be present. Write for Pump Catalog. Brown & Sharpe Mfg. Co., Providence 1, R. I., U.S.A.

BUY THROUGH YOUR LOCAL DISTRIBUTOR

Brown & Sharpe IBS

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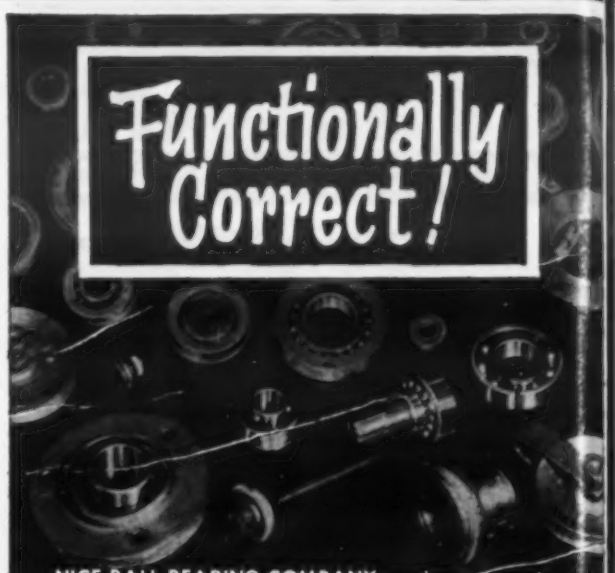
Functionally Correct!



NICE BALL BEARING COMPANY produces complete lines of precision, semi-precision and unground standard and special bearings. Hence, NICE field and factory engineers offer the advantage of a diversified product and experience . . . and are well qualified to recommend or design the economically and FUNCTIONALLY CORRECT bearing for your particular application.

Write for NICE *New Catalog No. 150*

NICE BALL BEARING CO.
NICETOWN • PHILADELPHIA • PENNSYLVANIA

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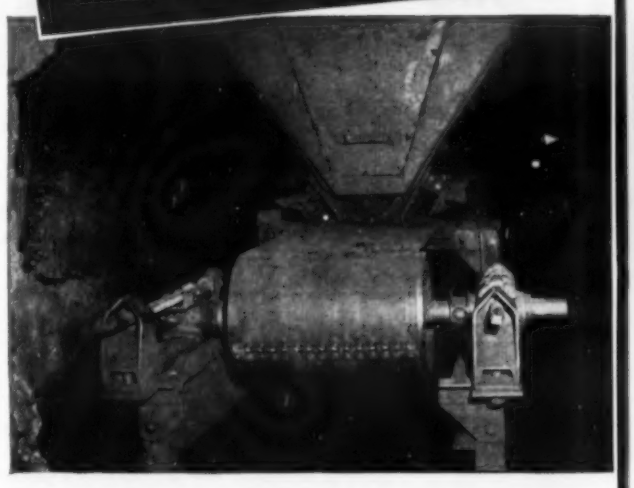
Better rubber products are made with Du Pont NEOPRENE



Neoprene-covered conveyor belt outlasts other belts 4 to 1 carrying hot sand in foundry

A large steel castings company was plagued by frequent breakdowns of the conveyor belt on its shake-out machine. Jagged fragments of metal and hot sand at temperatures of 200° to 500°F. were cutting service life of asbestos conveyor belts to 90 days. A production bottleneck threatened until a heat-resistant neoprene-covered belt was installed.

The neoprene belt lasted four times longer than the asbestos belts—*one full year of trouble-free operation!* On this application, the severe abrasion conditions rapidly wore away asbestos belts; ordinary rubber belts soon failed from the intense heat. These are rugged service conditions for *any* conveyor belt . . . and offer striking proof of neoprene's toughness and its resistance to heat and abrasion.

This same dependability can be found in thousands of neoprene products currently lowering production costs throughout industry. While Du Pont makes no finished goods of neoprene, your manufacturer or distributor will be glad to tell you about the neoprene products he supplies.

FREE! THE NEOPRENE NOTEBOOK
Each issue describes new neoprene products . . . improved old products . . . tips on reducing maintenance costs. Write today for your free subscription. E. I. du Pont de Nemours & Co. (Inc.), Rubber Chemicals Div. NE-8, Wilmington 98, Delaware.

NEOPRENE
The rubber made by Du Pont since 1932

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REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *through Chemistry*

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Gages must be properly matched with your requirements

GETTING THE RIGHT GAGES . . . like marriage . . . is a cooperative arrangement. It requires confidence and close cooperation. You need to take advantage of the gage maker's specialized knowledge of how to magnify and transfer measurement variations precisely, without loss of motion, with minimum friction and inertia in the working parts, and the hundred other details which don't concern most tool and machine designers. Many thousands of dollars are wasted annually by designing and building special gages which are already available as Federal catalog gages or catalog gages with slight modifications. Call in Federal when you *start* processing a job and let us engineer your gages for you. Federal Products Corporation, 1178 Eddy St., Providence 1, Rhode Island.

We can often modify catalog gages, simply and inexpensively, to suit special requirements. Save time and money. Call Federal.

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Largest manufacturer of indicating type gages . . . exclusively

For more details circle NED-298 H3 on enclosed inquiry slip

Cut Crane Runway Maintenance!

This folder tells you HOW

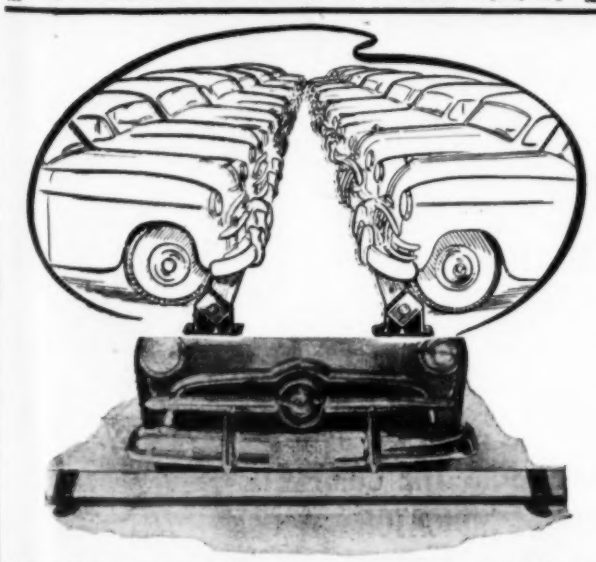
● If you are having maintenance problems with your present crane or runway, or if you're planning a new installation, this folder is a "must." It describes in detail our three Special Crane Rail Sections, which were designed to give longer life under heavy wheel loads. And it shows a special technique of tight-joint assembly which, when combined with a new conception of "floating-rail" fastening, will result in fewer delays in crane operation and less costly crane and crane runway maintenance.

Get *your* copy now. Just send your name and address to *United States Steel Corporation*, Room 2814-E, 525 William Penn Place, Pittsburgh 30, Pa., and we'll send you your copy right away.

U·S·S SPECIAL CRANE RAIL SECTIONS

UNITED STATES STEEL

For more details circle NED-299 H3 on enclosed inquiry slip



SALIENT FEATURES OF HAR-BAR BARRIERS

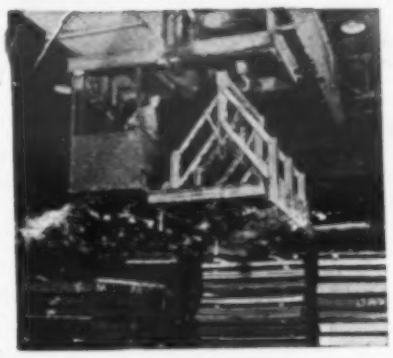
1. High enough to stop your car.
2. Low enough to clear your bumper guards.
3. Barrier is above ground — no drainage problem.
4. Barrier is above ground — no rotting of wood.
5. Automatically spaces your cars.
6. Follows contour of your ground.
7. Easily installed — just line up and drive the anchor pins.
8. Easily moved — just pull the anchor pins.
9. Easy to clean under.
10. Easy to maintain.
11. Installed on any kind of surface — black top, cement, macadam, gravel or cinders.
12. It really dresses up your parking lot.
13. You always stop against your tire — no shock.
14. Castings are non-rusting aluminum alloy.

Send us a plot plan of your parking lot—we do the engineering free.

HARRIS-BARRIER INC. 5407 N. PENNSYLVANIA STREET INDIANAPOLIS 5 - INDIANA

For more details circle NED-300 H3 on enclosed inquiry slip

SHEET LIFTING DEVICE handles loads up to 6 tons



Crane operators can pick up and deposit packs of sheet metal or other material without waiting for assistance from the floor with this automatic sheet and plate lifter. Pick-ups can be made from high stacks or inside holds in stockpile as easily as from outside row. Sliding guides align lifter against edge of pack, and hydraulic check valve, controlled from crane cab, keeps lifter from closing until positioned. Release of valve allows lifter to close by positive tong action when hoisted. Standard model handles 24 to 72-in. widths of steel weighing up to 6 tons. Made by **Jaeger Machine Co.**, 350 Dublin Ave., Columbus 16, O.

For more details circle NED-301 H3 on enclosed inquiry slip

FORK LIFT TRUCK 2-ton model turns in 6-ft radius

Pneumatic 7.50 x 15, 10-ply Road Lug tires on drive wheels and 6.00 x 9, 8-ply rib pneumatics on the rear of 2-ton capacity model 40 fork lift truck assure ample traction and footing, even on soft ground. Power is provided by 40-hp 4-cylinder Ford industrial engine. Major assemblies are accessible and designed for quick removal. Other features include 6-ft turning radius, tilting mast, hydraulic side shift, oversized clutch, heavy duty transmission and axles, hoses which run on pulley guides to prevent catching and 15-mph governor. Size, number and style of forks as well as lift height can be varied. Boom and shovel attachments are available. Made by **Knickerbocker Co.**, Truck-Man Div., 627 Liberty St., Jackson, Mich.

For more details circle NED-302 H3 on enclosed inquiry slip

DO YOU KNOW? A disposable simulated pitcher, made of plastic film, has been developed by a maker of maple syrup and will be made available for licensed use by manufacturers of noncompetitive products. Flange bottom helps the Pitcher Pour stand erect when set on table, and both sides are imprinted. Suggested applications include its use for individual servings of liquid food. Developed by Holbert Brothers, Onamia, Minn.

For more details circle NED-303 H3 on enclosed inquiry slip

penco LOCKER LOCKS ITSELF!

UNIQUE PATENTED FEATURE!

Penco Steel Lockers are equipped with the finest automatic locking device—a feature that "forgives" forgetfulness, prevents thefts, permits authorized locker inspection without occupant's presence! Penco's 2-WAY ACTION gives choice of automatic or manual locking—a feature you'll want!

A Complete Line of Steel Lockers — Send for Catalog

PENN METAL Corporation of Penna. 85th YEAR OF SERVICE
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FILL DESIGN AND LETTERING WITH ENAMEL MECHANICALLY

ASK FOR— THE ACROPRINTER Reg. U. S. Pat. Off.
MADE IN SEVERAL SIZES
MANUALLY OR POWER OPERATED
CONSTANTLY IMPROVED

The ACROMARK Company
WRITE TO — 7-11 MORRELL ST., ELIZABETH 4, N. J.
"THE ORIGINAL MARKING SPECIALISTS"

For more details circle NED-305 H3 on enclosed inquiry slip

This new idea generator packed with facts about BAKELITE TRADE-MARK Polyethylene can help turn your ideas into tomorrow's profits

New 24-page booklet shows how the unusual combination of properties of BAKELITE *Polyethylene* can make products look better, work better, cost less, and sell more.

You can see how products benefit by BAKELITE *Polyethylene's* flexibility, light weight, chemical resistance, low water permeability, excellent dielectric properties, impact resistance, formability.

You can learn the many different ways you can fabricate BAKELITE *Polyethylene* . . . how it can be injection or blow-molded; extruded as film, tubing, rod, tape, monofilaments; calendered, cast, or applied to other materials as hot-melts or by flame-spraying.

You can plan for a bigger future, now, by investigating what BAKELITE *Polyethylene* can do for your own products, when it becomes more freely available. New plants are under construction to expand production in order to alleviate present short supply. Time your own development work so you will be ready. Start today, by writing for a free copy of this idea-stimulating booklet. Write Dept. QR-53.

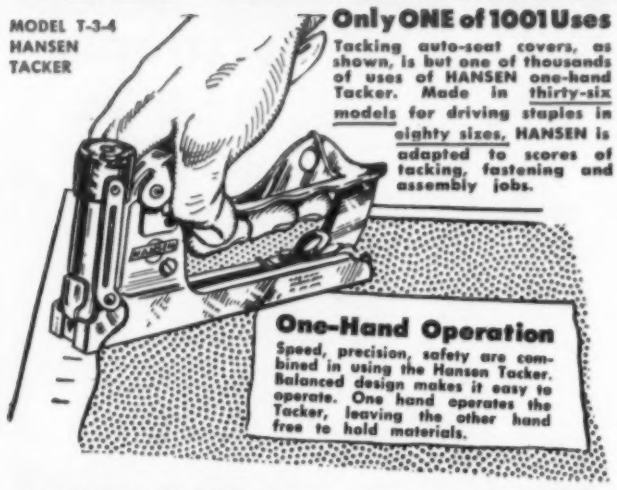
BAKELITE TRADE-MARK **Polyethylene**

BAKELITE COMPANY, 30 East 42nd St., New York 17, N. Y.
A Division of Union Carbide and Carbon Corporation UCC

For more details circle NED-306 H3 on enclosed inquiry slip

YOU CAN DO IT BETTER with HANSEN ONE-HAND TACKER

MODEL T-3-4 HANSEN TACKER



Only ONE of 1001 Uses

Tacking auto-seat covers, as shown, is but one of thousands of uses of HANSEN one-hand Tacker. Made in thirty-six models for driving staples in eighty sizes, HANSEN is adapted to scores of tacking, fastening and assembly jobs.

One-Hand Operation

Speed, precision, safety are combined in using the Hansen Tacker. Balanced design makes it easy to operate. One hand operates the Tacker, leaving the other hand free to hold materials.

HANSEN SAVES time — steps — materials

TIME—self-contained, ready for instant, continual use. STEPS — saves back-tracking for tacks. MATERIALS — precision driving, insuring neater, better work.

Request Booklet ...today

A.L.HANSEN MFG. CO.

5164 RAVENSWOOD AVE., CHICAGO 40, ILL.

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Check Temperatures

Instantly... Accurately with *Alnor* TYPE 1500 PORTABLE PYROMETER

Wherever temperature readings are required—on the production line, in the laboratory or in the field—this sturdy precision instrument can bring you instant, accurate results.

Here's Why

It's Fast . . . in operation and quickly read. Precision movement designed to laboratory standards. Direct reading scale face is easily understood—no slide wires or conversion tables necessary.

It's Accurate . . . consistently to within ¾ of one percent under almost all variable conditions. Sturdy, protective case assures continued accuracy in toughest portable service. Ten scale ranges available, from 0-400° to 0-3000°F. Equivalent Centigrade scales available at no extra cost.

It's Portable . . . compact size, 6½"x6"x3", and light weight make this pyrometer highly portable and easy to use anywhere. Write today for complete details and prices. Illinois Testing Laboratories, Inc., Room 529 420 N. La Salle Street, Chicago 10, Illinois.

Send for Bulletin on 1500 Pyrometer.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

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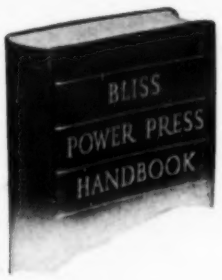
Bought your copy yet?



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- 450 Illustrations

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Sections on: Computing press jobs • Selecting proper press • Useful engineering tables • Die illustrations • Complete glossary • Plus a service section for Bliss presses. **$7.50**

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PLASTIC CARRYING CASE holds large number of small items

Although designed as a chemical analyzer kit, principle of construction of this lightweight plastic carrying case is adaptable to any type container, portable or not, in which many articles must be held securely and be visible as well. Recesses for bottles and other contents are built into pair of liners formed from rubber-resin copolymer from which outer shell is also formed. One liner acts as retainer, while second liner with deeper hollows supplemented with sponge rubber pads functions as the closing half. Dimensions are 26¾ x 12¾ x 4½ in. Two metal straps which run height of case are riveted at upper end through case body to the handle. Made by **Bassons Industries Corp.**, Dept. N, 1432 W. Farms Rd., New York 60, N. Y.

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WEATHERPROOF FANS for unattended outdoor use

Transformer cooling and other severe unattended outdoor applications are uses for line of weatherproof fans produced with blade sizes of 16, 20, 24 and 30 in. and air delivery ratings from 2820 to 6710 cfm. All sizes can be obtained with or without cradle type mounting stand. Entire unit is protected against elements and single phase 110/220 v motors have automatic reset type thermal overload protector. Three-phase motors for 220/440-v service are available, but without thermal protective device. Made by **Robbins & Myers, Inc.**, Propellair Div., Dept. C, Springfield 99, O.

▲ For more details circle NED-311 H3 on enclosed inquiry slip ▲

Gears & Speed Reducers

Michigan Tool Co., Cone-Drive Gears Div.—Fourteen typical materials handling equipment applications of Cone-Drive double-enveloping worm gear sets and speed reducers are described and illustrated in brochure "Cone-Drive Gears at Work in Materials Handling." They include hoists, cranes, winches and conveyors in many industrial classifications.

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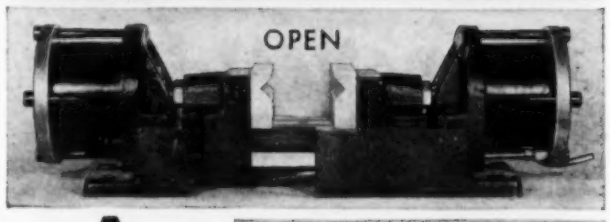
BLACK "CENTR-FINDER" VISE



A *Precision* TOOL

designed to locate centers or other pre-determined points regardless of shape or varying sizes of parts within .001" horizontally or vertically.

Vise jaws travel on guides—actuated by opposed double-acting cylinders—synchronized by mechanical means. Force exerted is all straight line. Clamping pressures up to 2000 pounds. No pressure exerted through synchronizing mechanism. Working range 0 to 4". For centering, drilling, chamfering, hollow milling, deburring, reaming and many other production operations.

write FOR BULLETIN

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Whenever or wherever you need them in a hurry, this fast, local service is as near as your telephone.

Your SKF Distributor *knows* bearings—knows how to *keep* the right bearing in the right place.

SKF INDUSTRIES, INC., PHILA. 32, PA. — *manufacturers of* SKF *and* HESS-BRIGHT *bearings.*

SKF BALL AND ROLLER BEARINGS

IN EVERY INDUSTRY, SKF Puts The Right Bearing In The Right Place

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WHICH PILOT LIGHT DO YOU NEED?

ACTUAL SIZE Cat. #613529-211

THE BIG ONE

This Pilot Light Assembly was first made to accommodate the *S-11 lamp* and was intended for use in the cabs of great diesel locomotives.

or

THE LITTLE ONE

The miniaturization program on defense products required the development of this *sub-miniature* light. It is used on communication equipment and aircraft. Midget flanged base bulbs to fit are rated 1.3, 6, 12, and 28 volts.

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Dialco HAS THE COMPLETE LINE of INDICATOR and PANEL LIGHTS

Samples to suit your own special conditions and requirements will be sent promptly and without cost. Just outline your needs. Let our engineering department assist in selecting the right lamp and the best pilot light for YOU.

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New! Porter-Cable 7-in. "CONTRACTOR'S SPECIAL"

Rips 8 feet in 7½ seconds!

In a recent series of ripping tests comparing leading 7-inch saws, Porter-Cable's new "Contractor's Special" turned in this amazing speed record . . .

18.6% faster than Saw A
41.7% faster than Saw B
51.6% faster than Saw C
38.7% faster than Saw D

Regardless of the depth of cut or type of wood used, the new "Contractor's Special" in every instance finished the cut far faster than any of the saws tested. For example, on ¾" Fir Plywood, the "Contractor's Special" averaged 7.5 seconds per 8-foot cut!

See the new 7-in. "Contractor's Special" at your Porter-Cable dealer's. Or write for complete specifications and performance data.

Porter-Cable
Quality Electric Tools

PORTER-CABLE MACHINE CO.
1608 N. Salina St., Syracuse 8, N. Y.
Manufacturers of SPEEDMATIC and GUILD Electric Tools

For more details circle NED-316 H3 on enclosed inquiry slip

NOW... *Correct Taper*

—FOR MAXIMUM GRIP
—FOR EASY REMOVAL IN

INTERCHANGEABLE TAPERED BUSHINGS AND SPROCKETS

BOSTON Gear

SHOLD-A-GRIP

Correct Taper
—FOR STRONGER, SLIP-PROOF GRIP
—FOR EASY REMOVAL Provides maximum holding power, even on worn shafts. Permits easy disassembly.

Broader Size Range
FIT SHAFTS ½" to 2½" BY 16THS
Any commonly used sprocket, ½" to 2¼" pitch can be interchanged on an extended range of shaft sizes.

FOR COMPLETE INFORMATION, ask your BOSTON Gear Distributor, or write: Boston Gear Works, 69 Hayward St., Quincy 71, Mass.

SEE YOUR BOSTON Gear DISTRIBUTOR

For more details circle NED-317 H3 on enclosed inquiry slip

1ST and *FINEST* for Grinder Dust Control

Type D ROTO-CLONE, exhausting this disc grinder, is equipped with Aftercleaner to permit recirculation of cleaned air to workroom.

It's a fact! Type D ROTO-CLONES exhaust more grinding wheels than any other dust collector—with over half the installations representing repeat orders. The reasons—higher cleaning efficiency; compact, space-saving design; lower power consumption and ease of maintenance.

Type D dust control can consist of a central system or an individual unit serving one isolated operation. Whether your grinding involves snagging rough castings or finest finishing, the Type D ROTO-CLONE can make it a dust-free operation at low cost. Write for Bulletin No. 272.

AAF American Air Filter COMPANY, INC.
391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

For more details circle NED-318 H3 on enclosed inquiry slip

EXPLOSION-PROOF LIMIT SWITCH
head adjusts to four positions

Operating head of this IMLI-EI explosionproof heavy duty limit switch can be adjusted to any of four horizontal positions. Roller arm assembly can be reversed to position actuator roller on either side of actuator arm. Roller arm is adjustable to operate clockwise, counter-clockwise or in both directions. Actuator arm assembly is adjustable through 360 degrees to any of 870 positive lock positions at intervals of 0.4 degrees. UL listed switch is rated 20 amp on 110, 220 or 440 v ac. It is suitable for use on all types of machinery and industrial equipment in explosive gas or vapor-air atmosphere. Made by **Minneapolis-Honeywell Regulator Co.,** Micro Div., 205 S. Chicago Ave., Freeport, Ill.

For more details circle NED-319 H3 on enclosed inquiry slip

HYDRAULIC PUSH-PULLERS
capacities from 17½ to 50 tons

By adapting OTC Power-Twin center-hole hydraulic rams to OTC push-pullers, four sizes of the latter, with an assortment of attachments and adaptors, can now be used with hydraulic power. They speed up maintenance pulling and installing operations involving gears, bearings, sheaves, pulleys, pinions, couplings, etc. Capacities from 17½ to 50 tons are available. Users having a push-puller can adapt it for use with center-hole ram by means of attaching plate also offered. Made by **Owatonna Tool Co.,** 436 Cedar St., Owatonna, Minn.

For more details circle NED-320 H3 on enclosed inquiry slip

Specialized Materials Handling

Fab-Weld Corp.—Over 100 different types of skids, pallets, stackable pallets, skid boxes, containers, racks, trucks, trailers, dump hoppers and other special equipment to facilitate handling of specific types of materials and products are shown in 32-page illustrated catalog "Special Materials Handling Equipment."

For more details circle NED-321 H3 on enclosed inquiry slip

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Stock Patterns:
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Stock anvils come in 17 sizes, in weights from 50 to 700 pounds. Write for price list.

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"EAGLE" ANVIL WORKS
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For more details circle NED-322 H3 on enclosed inquiry slip

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TOUGH! You get the benefit of every ounce of sling strength in a basket hitch. Heat treated handles give extra strength. Transverse loop construction won't let sling body snap suddenly!

SAFE! Broad, flat sling body grips tightly around load in a choke hitch. Grips *entire* load securely, keeps inside members of tubing, rod or bar stock from slipping. Also, no broken wires stick out to cut operator's hands.

EASY TO USE! No kinking, tangling, snarling. Use any sling in either hitch. Use anywhere you have a stationary or portable hoist. Hangs out of the way when not in use.

SEE your industrial supply, materials handling or safety equipment dealer. Or write direct for name of nearest dealer and FREE ILLUSTRATED HANDBOOK.

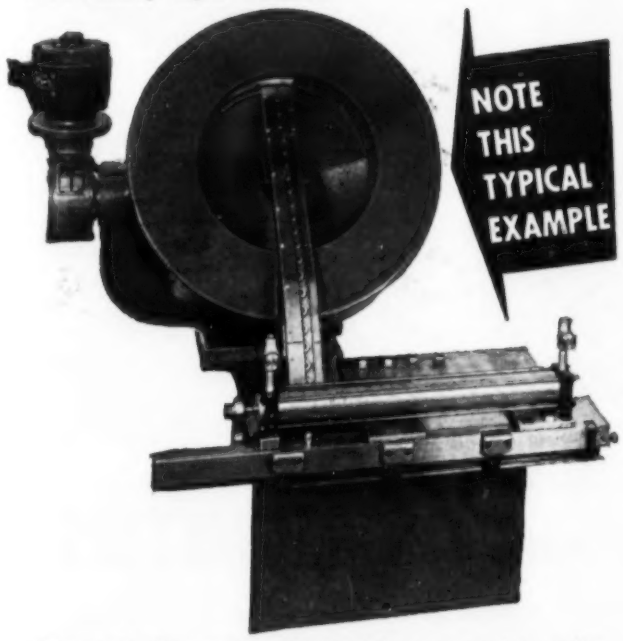
The Cambridge Wire Cloth Co.
WIRE CLOTH | METAL CONVEYOR BELTS | SPECIAL METAL FABRICATIONS
Department R
Cambridge 8, Maryland

DEALERS! Write for information on territories available.

For more details circle NED-323 H3 on enclosed inquiry slip

HERE'S AUTOMATION AT ITS BEST

DPS Automatic HOPPERS, combined with DPS Engineering Skill provide outstanding time and labor-saving aid in this and hundreds of other unique assembly operations.



Above is shown a motorized hopper and transfer mechanism whereby eight (8) valve retainers are selected, oriented and transferred out to proper spacing and dropped over eight (8) valve stems simultaneously, and BELIEVE IT OR NOT, ALL THIS IN ONLY FOUR SECONDS! . . . This unit is used as a part of a special machine developed for the semi-automatic assembly of valves in V-8 MOTORS . . . just one of innumerable applications where DPS Motorized Hoppers, Power Screwdrivers and other Assembly Aids are conserving valuable production time in thousands of plants.

GET THE FACTS—WRITE TODAY

LESS WASTE TIME, LESS LABOR, LESS COST!

DETROIT POWER SCREWDRIVER CO.
2819 W. FORT ST. DETROIT 16, MICH.

For more details circle NED-324 H3 on enclosed inquiry slip

Here's how to SAVE TIME in SETTING-UP and KEEPING your MACHINES LEVEL

Fast Accurate Self-Aligning Machine Leveler

Empco JACK

Empco Jacks enable you to meet hurry-up demands for relocation of machinery by giving you the fastest, easiest, most accurate machine leveling ever known: you simply raise or tilt machine sufficiently to allow the Empco Jacks to be slipped under base. The number of jacks required depends on weight of machine and size of base. Once set on Empco Jacks, the entire operation of leveling and maintaining equipment level is quickly done. By applying a wrench to the "hex" head of adjusting screw, an adjustment is obtained either up or down until your level indicator reads "zero." Write for specifications and prices today.

Vibration absorbing mounting pads increase machinery life.

EMPCO PRODUCTS

THE ENTERPRISE MACHINE PARTS CORPORATION
2727 JEROME AVENUE • DETROIT 12, MICHIGAN

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Exclusively in

WESTON *all-metal* THERMOMETERS

Although WESTON provides sensing elements of various forms for special applications, the element in all standard WESTON Industrial Thermometers is a *multiple helix* as illustrated above. Why the more costly *multiple,* instead of the single, helix? *Just one reason.* WESTON's twenty years' experience producing bi-metal thermometers for industry has furnished convincing proof that the shorter, non-sagging *multiple* helix provides better accuracy, over longer periods. And while it provides other advantages, the one thing most thermometer buyers demand is long-term dependability. You get it, in extra measure, in WESTON Thermometers with *multiple* helix. WESTON Electrical Instrument Corp., 614 Frelinghuysen Avenue, Newark 5, N. J.

Stocked by leading Distributors

WESTON *Thermometers*

▲ For more details circle NED-326 H3 on enclosed inquiry slip ▲

INDEXING TABLE
turret type mounts up to 32 stations

Standard intermittent motion turret indexing units are offered with turret diameters of 20, 30 or 40-in., for mounting 16, 24 or 32 work stations. Indexing rates vary from 547 to 4700 indexes per hour and dwell time from 0.5 to 4.9 seconds. Accurate indexing is provided by uniform acceleration cross-over cam, with locking device giving positive location at all stations. Mounting brackets to support any operating device can be mounted either below the turret face, on the stationary plate recessed in the turret top or on the floor in the case of larger apparatus. Made by **Swanson Tool & Machine Products, Inc.,** 808 E. Eighth St., Erie, Pa.

▲ For more details circle NED-327 H3 on enclosed inquiry slip ▲

TOOL GRINDER
wet and dry floor and bench models

Equipped with reciprocating-action tool holder, model AP tool and cutter grinder is available either as a dry bench or as a wet or dry floor machine. It is useful for grinding all cutting tools, including carbide, Stellite and high speed steel types. One side of the machine is equipped with quick-acting indexing table, which can be set to the required angle and remains in position without locking devices. The finishing wheel is equipped with the reciprocating-action tool holder, which has total swing of about 60 degrees and micrometer infeed. Diamond or vitrified wheels are used, and various accessories are available. Made by **Thomas Prosser & Son,** 64 South St., New York 5, N. Y.

▲ For more details circle NED-328 H3 on enclosed inquiry slip ▲

DO YOU KNOW? Com-Bin feeders for the continuous feeding of sticky, mastic and other nonfree-flowing materials are being offered to processors and manufacturers on rental test basis so that pilot tests can be run on them in their own plants to simulate plant scale operation. Pilot size units have 2⅓-cu ft bin capacity and variable speed feeder shaft. They operate from 110-v 60-cycle outlet. Service offered by Pulva Corp., 553 High St., Perth Amboy, N. J.

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UNITABLE®
BELT CONVEYOR

For Assembly - Inspection - Packaging

The most ADAPTABLE portable conveyor you can find. Exclusive "unitized" design 10' to 80' lengths. Write for UNITABLE Bulletin now.

CONVEYOR SPECIALTY COMPANY INC.
37 Newport Avenue
North Quincy 71, Mass.

▲ For more details circle NED-330 H3 on enclosed inquiry slip ▲

Acme Steel Announces New Gas-Powered Wire Stitcher

Shippers can now carry on stitching operations even where there are no electrical outlets available, with the new gasoline-powered Acme Steel Wire Stitcher. Powered by a built-in, compact, 1-hp., 4-cycle engine, it's as easy to run as a power lawn-mower. Costs little more than standard models, and opens up a whole new field of economical, mobile wire stitching operations.

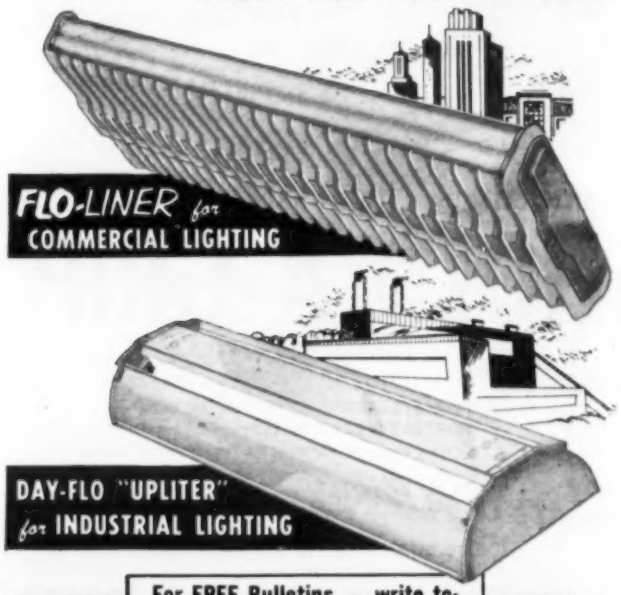
For details, ask your Acme Steel representative or write to Acme Steel Products Division, Dept. NED-83, Acme Steel Company, 2840 Archer Ave., Chicago 8, Ill.

ACME STEEL
STITCH IT...STRAP IT...SHIP IT...SAFELY!

▲ For more details circle NED-331 H3 on enclosed inquiry slip ▲

Whatever your Lighting Requirements...

THERE'S A *Wheeler* FIXTURE THAT'S RIGHT FOR YOU *and the* JOB!



For FREE Bulletins — write to:

Wheeler REFLECTOR COMPANY
275 CONGRESS STREET — BOSTON 10, MASS.
Distributed Exclusively Through Electrical Wholesalers

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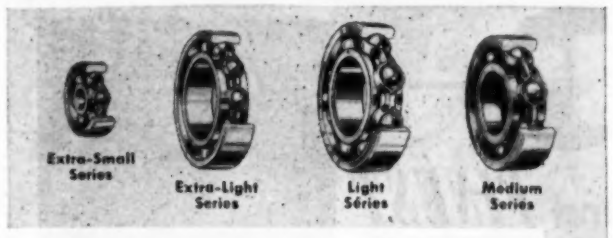
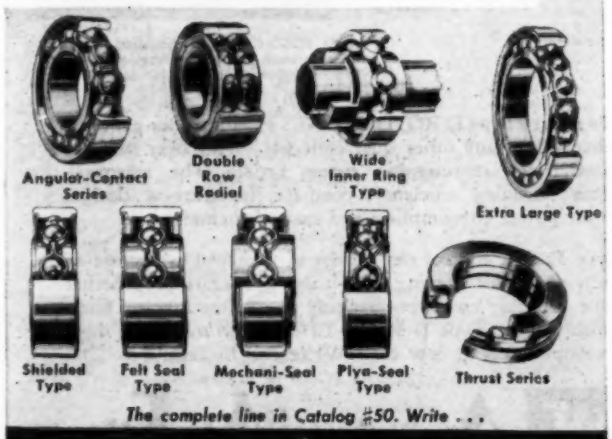


FAFNIR BALL BEARINGS
THE MOST COMPLETE LINE IN AMERICA



The complete line in Catalog #50. Write . . .

THE FAFNIR BEARING COMPANY
New Britain, Connecticut

▲ For more details circle NED-333 H3 on enclosed inquiry slip ▲

Steel company saves time with a 10 hp Car Spotter.

Spot cars at a moment's notice with a LINK-BELT Car Spotter

ONE man and a Link-Belt Car Spotter can spot up to six loaded freight cars with ease. What's more, you reduce demurrage charges. Choose from a complete line of models—portable or stationary, with 5 or 10 hp integral or separate motors.

LINK-BELT CAR SPOTTERS

Write today for Book 2092 and get all facts on car spotters and drum type pullers.

LINK-BELT COMPANY: Plants: Chicago, Indianapolis, Philadelphia, Colmar, Pa., Atlanta, Houston, Minneapolis, San Francisco, Los Angeles, Seattle, Toronto, Springs (South Africa), Sydney (Australia). Sales Offices in Principal Cities. 13,160

For more details circle NED-334 H3 on enclosed inquiry slip

SPECIAL BROACHES offered for quick delivery

Wide variety of special broaches, a few of which are illustrated, are available for quick delivery if within the standard tooling and equipment facilities of this company. Falling into this category are broaches having cutting sections of 20 in. or less, overall length of 36 in. or less and square broaches not smaller than ¼-in. across flats. Round, spline, rifling and irregularly shaped broaches are not included. Made by **du Mont Corp.**, 38 Beacon St., Greenfield, Mass.

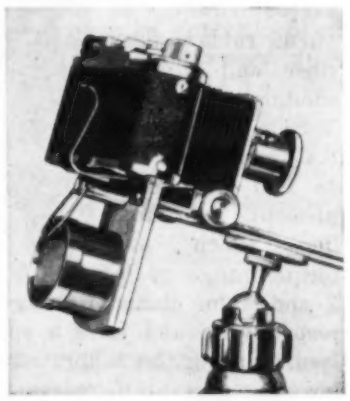
For more details circle NED-336 H3 on enclosed inquiry slip

FLUSH DOOR HANDLE curved handle offers good grip

Giving a large gripping space for big or gloved hands, flush door handle combines a deep cup recess with curved shape. Handle is available in large, medium and small sizes, and has a circular mounting. It is designed primarily for sheet metal body and cabinet applications. Made by **A. L. Hansen Mfg. Co.**, 5164 Ravenswood Ave., Chicago 40, Ill.

For more details circle NED-337 H3 on enclosed inquiry slip

CAMERA ATTACHMENT improves lens ranges



Designed for use with Leica, Tower 35, Cannon, Nikkor and similar cameras, model F31 Nilscope makes possible photographing objects at any distance from infinity to 2-in. from the lens, depending on the lens used. With a regular 50 mm lens having a distance scale 1.5 ft to infinity, objects from 18-in. to 2⅝-in. from the camera can be photographed. Objects closer than 2⅝-in. from the lens can be photographed by the use of additional extension tubes. Distributed by **Burke & James, Inc.**, 311 S. Wabash Ave., Chicago 4, Ill.

For more details circle NED-338 H3 on enclosed inquiry slip

NEW BAKER HYDRAULIC "PUSHER" ATTACHMENT

Handles Loads without Pallets

●

Loads Carriers which fork trucks cannot enter

● This new hydraulic "Pusher" device attaches to any Baker 2000 to 6000 lb. fork truck. It is designed for speedy handling of bulky, unpalletized loads such as baled scrap, pulp or cartons. Picks up, discharges or tiers such loads smoothly and without damage. Ideal for loading highway carriers which trucks cannot enter.

Operated from driver's position, with positive control over pushing pressure. Exclusive design reduces truck capacity by only 10%.

write for complete information.

Baker — industrial trucks

THE BAKER-RAULANG COMPANY
1245 W. 80th STREET • CLEVELAND 2, OHIO

BAKER-LULL Corp., *Subsidiary*, Minneapolis, Minn. *Material Handling and Construction Equipment.*

For more details circle NED-340 H3 on enclosed inquiry slip

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SAMPLES

Write on your company letterhead for stock samples, sent without obligation.

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Better, ready-to-use direct positive prints are yours in seconds with DRIPRINT

Whether you want prints with black, blue, red or sepia lines, you'll get better results with DRIPRINT. Made directly from your translucent original without a negative, these superior Dietzgen ammonia-process prints on paper or cloth give you denser, sharper lines on pure white backgrounds every time.

Lines are fade-proof, too, even in strong sunlight, oil, perspiration. And these prints are tough, fight repeated folding, wear, tear. Thus DRIPRINT is permanent two ways.

You can draw or write on DRIPRINT with pen, pencil or water color; and print lines can be removed instantly with DRIPRINT Eradicator Fluid. So notations, additions, alterations are easily made. Try DRIPRINT.

EUGENE DIETZGEN CO. • Chicago • New York • San Francisco New Orleans • Pittsburgh • Los Angeles • Philadelphia Washington • Milwaukee • *Dealers in All Principal Cities*

DIETZGEN — EVERYTHING FOR DRAFTING SURVEYING & PRINTMAKING

Free Samples!

For more details circle NED-335 H3 on enclosed inquiry slip

PANALARM AUDIO-VISUAL SIGNALS reduce your operating costs

Applied to any automatic or semi-automatic process, PANALARM "50" Annunciators simplify operation. They provide a combined audible and visual signal requiring operator acknowledgment when any "off-normal" condition occurs. They give high or low signals for liquid level, temperature, pressure, mechanical limits, pump failure or any similar factor.

System is pre-wired, easily installed. All contacts and moving parts are within hermetically sealed plug-in units which assure trouble-free operation, and are suitable for Class 1, Div. 2 locations. Additional signals may be added by simply plugging into chassis.

WRITE FOR CATALOG 100.

PANALARM PRODUCTS INC.
6312 North Broadway • Chicago 40, Illinois

For more details circle NED-339 H3 on enclosed inquiry slip

Do Top-Grade Work With UNSKILLED Labor!

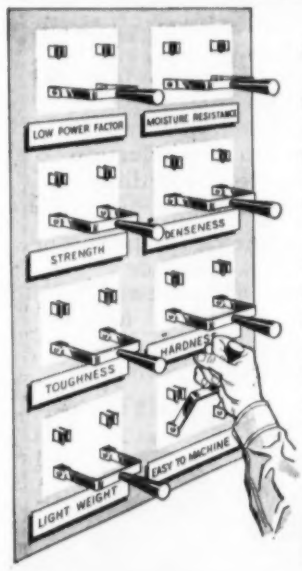
NEW METHOD CUTS ROOF REPAIR... and re-roofing costs in HALF!

You make big savings with Tropical's Roof Maintenance System. Lower cost, unskilled labor easily applies improved cold process materials, without training or special equipment. Because no heat is used, Tropical roofing material does not turn hard or brittle, retains tough plasticity for extra years of service! Ninety percent of leaky roofs can be saved, get added long weather-tight life this way. When re-roofing is needed, Tropical method gives a top-quality roof—cuts costs to the bone!

FREE! **"Saving Old Roofs" tells whole money-saving story on new roof maintenance methods. Your business letterhead request brings a free copy—write today!**

THE TROPICAL PAINT & OIL CO. SINCE 1883
1124-1236 W. 70th Street, Cleveland 2, Ohio

For more details circle NED-341 H3 on enclosed inquiry slip



Choose the COMBINATION of properties you need

Light weight, strength, chemical and moisture resistance, hardness, toughness, density, high dielectric strength—Synthane laminated plastics combine them all in one easy-to-machine material. If your product—or a component—requires a specific *combination* of properties, it will pay you to investigate Synthane. The coupon below brings you full details.

SYNTHANE

Manufacturers of laminated plastics
SHEETS
RODS • TUBES
MOLDED-LAMINATED
MOLDED-MACERATED
FABRICATED PARTS

SYNTHANE CORPORATION
N.E. River Road, Oaks, Pa.

Gentlemen:
Please send me the new Synthane Catalog without charge or obligation on my part.

Name _____
Address _____
City _____ *Zone* ____ *State* ____

For more details circle NED-342 H3 on enclosed inquiry slip

SPRING-FELT SLASHES PRODUCTION TIME AND COSTS

There's virtually no limit to the uses you'll find for Spring-Felt. This convenient pressure-sensitive tape sticks tight with light finger-pressure. For glazing metal windows, it makes channels fit snug—seals out dust, moisture, fumes, drafts—saves valuable time, needs no clean-up.

Made in thicknesses from 1/64" to 1/4"; in widths to 36". Impregnated and unimpregnated types. Damps vibration. Eliminates squeaks, rattles. Cushions. Protects. Write for Bulletin 501.

SPRING PACKING CORPORATION
332 South Michigan Ave., Chicago 4, Ill.

For more details circle NED-343 H3 on enclosed inquiry slip

The Independent Lock Co.
Fitchburg, Mass.

KEEPS PRODUCTION COSTS DOWN . . . MAKES BETTER DOOR CLOSERS

with SUNNEN® HONING

PROBLEM: To produce smooth, accurate door closer housings at higher rate; eliminate selective fitting and speed assembly.

MATERIAL: Cast iron (or brass) • HOLE DIAMETER: 1 7/8" HOLE LENGTH: 6 3/4" overall (Surfaces honed are 2 tandem lands 2 5/8" wide) • STOCK REMOVAL: .005" • FINISH: Smooth TOLERANCE: +.0002", —.0000" • GAGING EQUIPMENT: Air gage

SOLUTION: Sunnen Model MBB-1290D Honing Machine, with Simplex type mandrel and P-28 type stones, and Sunnen Honing Oil.

RESULTS: Better fit and improved bearing surface have eliminated selective fitting and increased assembly speed more than 100%. Close fit permits using special fluid, makes door closers efficient over wide temperature range.

Actual production rate of above housing is 44 per hour. Other sizes as high as 80 per hour including gaging.

You'll find Sunnen Honing Machines economical for job lots or long production runs . . . for everything from de-burring to micro-fitting. They are frequently the solution to production problems that cannot be handled by drilling, reaming, boring, lapping or grinding.

These machines generate geometrically perfect holes with fast stock removal . . . produce a guaranteed accuracy of .0001" or better and surface finish to 2 micro-inches RMS . . . have a diameter range of 1/8" to 2 5/8" . . . require no jigs or fixtures. Average installation costs less than $1,000.

TYPICAL HONED PARTS

Part from button-hole machine — Steel worm gear — Bronze motor bearing

Sunnen Honing Machines may be *your* answer, too.

744A

Send for FREE BOOKLET

SUNNEN PRODUCTS COMPANY
7967 Manchester Avenue, St. Louis 17, Missouri
Canadian Factory: Chatham, Ontario

For more details circle NED-344 H3 on enclosed inquiry slip

BAND SAWING MACHINE can be remotely controlled for hazardous operations

Specialized band sawing and band machining operations which might also be hazardous can be performed on this machine which is arranged for remote control from distant safety point. One such use is cutting apart of explosive shells to permit inspection of their interiors. Machine is adaptation of DoALL's model MP-20 which accepts band tools for filing, grinding and polishing as well as sawing.

Work height capacity of 24 in.; a 36-in. stroke; hydraulically powered, heavy duty table; band speed control up to 10,000 fpm; automatic hydraulic brakes which stop machine when band tool breaks; facilities for air jet, mist or flood cooling; hydraulic positioning of tool guide post; hydraulic tensioning of saw band; and two-way table tilt for cutting at angles are principal features. Hydraulic lines and wiring between band machine and remote control unit are encased in heavy wall conduit. Made by **DoALL Co.**, 256 N. Laurel Ave., Des Plaines, Ill.

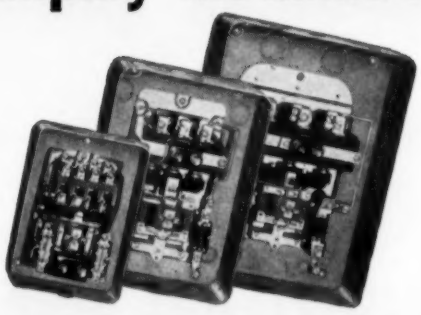
For more details circle NED-345 H3 on enclosed inquiry slip

MAGNETIC TENSION BRAKES hysteresis type reduces wire flexing

By providing constant tension, two new magnetic tension brakes of the hysteresis type reduce abrasion and excess flexing of yarns, rubber, glass fiber and wire in winding processes. Torque ranges of 0.4 to 4.0 and 2.0 to 14.0 oz-in. supplement original line which has torque range of 0.1 to 0.5-oz-in. Brakes are about 2 and 3 in. diameter, weigh about 3/4 and 2 1/2 lb, respectively, and have a speed range of 0 to 1500 rpm. Turning the calibrated aluminum magnet housing decreases or increases the brake torque. Brake holds stalled tension by a tendency to reverse direction of rotation for a few degrees after decelerating to a standstill. Units retain required torque unaffected by lint, moisture and heat. Made by **General Electric Co.**, Schenectady 5, N. Y.

For more details circle NED-346 H3 on enclosed inquiry slip

Compact motor starters simplify installation



The compact unit construction of Ward Leonard a-c across-the-line magnetic starters makes installation easy.

Complete accessibility of all parts simplifies inspection. They are designed with high current interruption capacity and for long, trouble-free operating life.

Open types for machine tool and panel builders or enclosed types as shown are available in seven NEMA sizes, from 1 to 200 hp. Order now for immediate delivery. Or write for Starter Bulletin 4110. Ward Leonard Electric Co., 51 South Street, Mount Vernon, N. Y.

WARD LEONARD ELECTRIC CO.
Result-Engineered Controls Since 1892
RESISTORS • RHEOSTATS • RELAYS • CHROMASTER

For more details circle NED-347 H3 on enclosed inquiry slip

Brand Spanking New!

MEYCO CONTROLLED CUT CARBIDE TIPPED SAFETY SAW

★ The latest addition to the famous MEYCO line of precision cutting tools. This new controlled cut, carbide tipped safety saw has many advantages: It's SAFE: will not pull hand into the blade, will not grab and kick-back work. It's ECONOMICAL: costs less to buy, longer life between grinds; cuts smoother, longer. Its CONTROLLED CUT regulates rate of feed, assures clean cut; makes chips instead of saw dust. Available at leading mill supply and hardware houses, or direct from factory. Write for fully descriptive literature and price list. Ask for Catalog No. 19.

W. F. MEYERS CO., INC., BEDFORD, INDIANA

For more details circle NED-348 H3 on enclosed inquiry slip

- Pump Controls
- Duplex Pump Alternators
- High and Low Level Cutoffs
- High and Low Level Alarms
- Multi-Level Signals
- Liquid Metering
- Special Controls and Panels

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CHARLES F. WARRICK CO.
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Warrick
FLOATLESS
LIQUID LEVEL CONTROLS
ELECTRODE TYPE

For more details circle NED-349 H3 on enclosed inquiry slip

FOR NAME PLATES THAT REFLECT

WRITE FOR THIS BOOKLET

Don't underestimate the importance of name plates because the cost is small. Your name plate can mean much—in prestige and in selling effect. If you're proud of your product give it the mark of quality—one of our sparkling metal name plates. Send rough sketch or blue print for design suggestion and quotation, without obligation.

Write for "Etched or Lithographed Metal Products of Quality," with full color examples of our name and instruction plates.

CHICAGO THRIFT-ETCHING CORPORATION
1555 N. SHEFFIELD AVE., CHICAGO 22, ILL., DEPT. U
SUBSIDIARY OF DODGE MANUFACTURING CORPORATION, MISHAWAKA, INDIANA

For more details circle NED-350 H3 on enclosed inquiry slip

This booklet will help you

AVOID COSTLY FIRE LOSSES

Send for eye-opening facts on Rockwood's Triple-Action WaterFOG Nozzle

Here's a real all-purpose fire fighting nozzle. The Rockwood SG-48 can be quickly changed to a high velocity WaterFOG, straight water stream or low velocity WaterFOG pattern. Extinguishes fires in flammable liquids or ordinary combustibles faster, with less water and less damage. Protects firemen from hot fumes and gases and is easier to handle. Operates satisfactorily at 50 psi at the nozzle. For industrial and chemical plants, oil refineries, mercantile and public buildings, etc. Tested by Underwriters' Laboratories, Inc. and approved by Factory Mutual Laboratories.

Bulletin C-501R gives you complete data. Send for it today. Distributors in all principal cities.

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . To Cut Fire Losses

44 HARLOW STREET, WORCESTER 5, MASS.

For more details circle **NED-351 H3** on enclosed inquiry slip

..Fits like a Glove

WHATEVER YOUR ELECTRIC MOTOR REQUIREMENTS THE MOTOR CARRYING THE FAIRBANKS-MORSE SEAL WILL FIT THE JOB ...like a Glove!

A.C. or D.C. . . . single phase or polyphase . . . induction or synchronous . . . in all ratings and frame types —whatever the need, you can find the one motor best suited to the job in the complete line of Fairbanks-Morse Motors. Call your nearby Fairbanks-Morse electric motor branch for details, or write: Fairbanks, Morse & Co., 600 So. Michigan Ave., Chicago 5, Ill.

FAIRBANKS-MORSE,

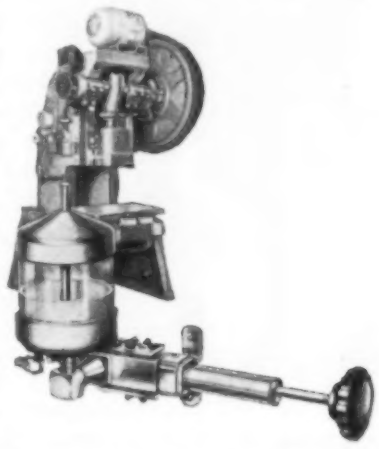
a name worth remembering

ELECTRIC MOTORS AND GENERATORS • MAGNETOS • PUMPS
DIESEL LOCOMOTIVES AND DIESEL ENGINES • FARM MACHINERY
SCALES • RAIL CARS • HOME WATER SERVICE EQUIPMENT

For more details circle **NED-352 H3** on enclosed inquiry slip

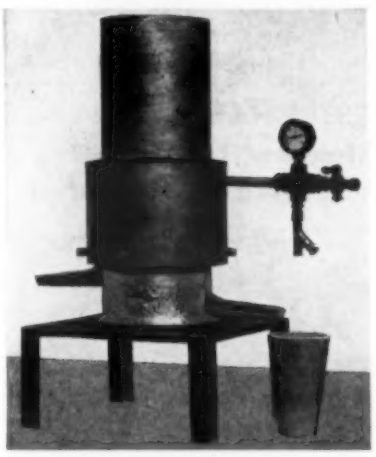
CENTRALIZED LUBRICATION KIT services from 5 to 12 bearings

Permitting the application of controlled amounts of oil or light grease to bearings while the machine is in operation, the Multi-Luber kit is a complete package ready for installation on punch presses and similar production machines. Optional flexible feed lines and swivels are available for connection with moving bearings. It is reported that the kit can be fitted by two maintenance mechanics in 1½ hours or less, without special tools or skill. Oil and grease reservoirs have capacities of 4 and 3 oz respectively. Made by **Lincoln Engineering Co.**, 5782 Natural Bridge Ave., St. Louis 20, Mo.



For more details circle **NED-353 H3** on enclosed inquiry slip

LABORATORY CUPOLA FURNACE 60 lb of cast iron per hour



Designed for melting of ferrous and nonferrous metals and the reduction of ores on laboratory scale, this 3-in. cupola furnace operates on coke and compressed air at a capacity of 60 lb of cast iron per hour. Preheating time is only 20 to 30 minutes. Constructed of steel, cupola features long life rammed monolithic lining, 6 silicon carbide lined tuyeres and two lined spouts, a stack crucible and an eye piece for viewing melting process. Made by **Foundry Rubber Inc.**, 6101 River Rd., Washington 16, D. C.

For more details circle **NED-354 H3** on enclosed inquiry slip

Variable Speed Motors

U. S. Electrical Motors Inc.—Completely revised and amplified, 16-page bulletin 1796, lithographed in multi-colors outlines reasons why variable speed motors can be used to improve production and includes illustrations of all types of Varidrive motors. It includes 80 colored pictures of motors, mechanical features, remote controls, etc.

For more details circle **NED-355 H3** on enclosed inquiry slip

DO YOU WANT THE FULL, MONEY-SAVING *Facts* ABOUT DOCKBOARDS?

THIS NEW FACTS FILE GIVES THEM TO YOU . . .

The new Magcoa **Facts File** is full of facts like these that you ought to have before you invest in a bridgeplate for your loading dock—

- **The actual costs of dangerous makeshift plates**
- **What other companies learned . . . *the hard way***
- **Why sixty multi-plant national companies standardized on Magcoa Dockboards**
- **What your local Magcoa Representative knows about *your* dock**

The new Magcoa *Facts File* is based on a study of what smart buyers demand (and get); gives you tips on *net* costs; talks in dollars and cents, specific facts . . . from your viewpoint. Write today for your free copy.

MAGNESIUM COMPANY OF AMERICA

MATERIALS HANDLING DIV. • EAST CHICAGO 6, IND.

For more details circle **NED-356 H3** on enclosed inquiry slip

For more details circle **NED-357 H3** on enclosed inquiry slip

How Avon saves $12,000 a year with International Carton Stapler

In 1950, the Chicago branch of Avon Products Inc., nationally known manufacturers of cosmetics and toiletries, installed an International Stapler for closing filled cartons of their products.

Formerly, it took 32 man-hours to close between 1,500 and 2,000 cartons of varying sizes. With the International Stapler, this operation requires approximately one-fourth the time.

International Staplers will save you up to 50% on shipping costs . . . write for details. ***Have you seen the new movie, "Package for Profit"? Ask about bookings.***

INTERNATIONAL STAPLING MACHINES

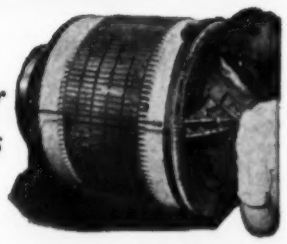
INTERNATIONAL STAPLE & MACHINE COMPANY

802 East Herrin Street, Herrin, Illinois

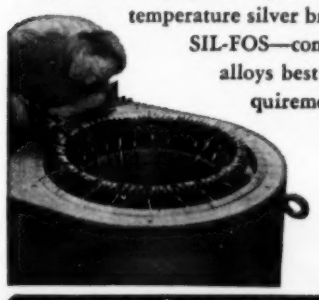
For more details circle **NED-358 H3** on enclosed inquiry slip

What ELLIOTT COMPANY says about SILVER ALLOY BRAZING

"Experience and test have proven that silver alloy brazing produces far superior joints."



That's why ELLIOTT—one of the country's principal manufacturers of motors and generators—uses silver alloy brazing almost exclusively on D.C. machines, and on all damper and squirrel cage windings and most coil connections on A.C. units. The alloys primarily used by ELLIOTT are the low-temperature silver brazing alloys EASY-FLO and SIL-FOS—convincing evidence that these alloys best satisfy the metal joining requirements of electrical equipment.



FOR FULL FACTS GET BULLETIN 20
Write for a copy today.

HANDY & HARMAN 82 Fulton St., New York 38, N. Y.

Distributors in Principal Cities. In Canada: Handy & Harman of Canada Ltd., Toronto

For more details circle **NED-359 H3** on enclosed inquiry slip

For more details circle NED-360 H3 on enclosed inquiry slip

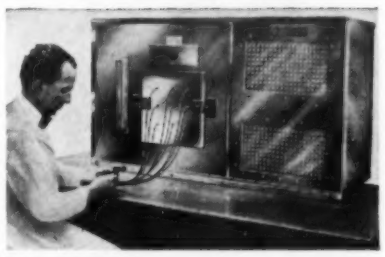
INTERCOMMUNICATION SYSTEM
paging can be done from any station without central operator

Interoffice or interplant telephone communication, plus "all-hear" paging features are combined in this Femco Pagephone intercommunication system. Equipment consists of centrally located amplifier, plug-in junction box, handset stations and single, interconnecting cable. Each station consists of telephone type handset, loudspeaker, volume control and indicator light which shows when system is clear for use.

Paging can be done from any station without use of central operator. A "super-page" feature permits central operator, who may be receptionist or switchboard operator, to make page calls while system is in use, without cutting off handset conversations. Equipment is available for standard, heavy and mill duty. Any number of independent systems can be interconnected together. A single amplifier will handle up to 20 stations. Equipment operates on 115-v ac circuits. Made by **Farmers Engineering & Mfg. Co.**, Irwin 1, Pa.

For more details circle NED-362 H3 on enclosed inquiry slip

TEMPERATURE TEST CHAMBER
bench type high-low range unit is heated by reverse refrigeration



Giving extreme temperature ranges (−80 to 185° F) within a relatively short time, this high-low temperature test chamber features temperature pull-down to −80° F in 30 minutes or less. Test chamber dimensions of bench type unit are 12 x 12 x 12 in. and overall dimensions are 50 x 20 x 26 in. It is equipped with air-cooled compressors and has a stainless steel cabinet. Application of heat is through reverse cycle refrigeration, and a blower provides even heat distribution.

Latch type door illustrated can be removed for affixing a mounting board to back of door on which component parts can be mounted. Holes can be drilled through the door for electrical contacts. Hinge type door is also available, as is model for temperatures from −100 to 250° F. Made by **Webber Mfg. Co.**, Industrial Freezer Div., Dept. 234, 2740-N Madison Ave., Indianapolis 3, Ind.

For more details circle NED-363 H3 on enclosed inquiry slip

FIND OUT ABOUT
SEALOL

Here's the full story on Sealol — the Balanced Pressure Seal for rotating shafts. New Bulletin 7 gives a general description of the seal itself . . . also a discussion of the unique Sealol sealing principle, types of Sealol seals, dimensions and dimension drawings, housing fits, o-ring installations, and mating surfaces. A number of sectional drawings showing typical installations are included to assist in applying Sealol seals to specific design problems.

Write for your copy of Sealol Bulletin 7 — a valuable and comprehensive source of seal information. Sealol Corporation, 47 Willard Avenue, Providence 5, Rhode Island. Chicago • Cleveland • Houston • Los Angeles • Philadelphia • Tulsa • Montreal, Canada • Flexibox, Ltd., Manchester, England.

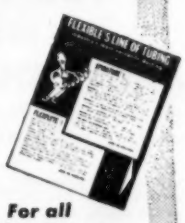
SEALOL
THE BALANCED PRESSURE SEAL

For more details circle NED-361 H3 on enclosed inquiry slip

Set up Fume Ventilation yourself with SPIRATUBE®

SPIRATUBE's design qualities make it ideal for portable and semi-permanent ventilation service, fume removal, all dust collection systems. It has the greatest flexibility and retractability. Sections of SPIRATUBE link together or detach in 10 seconds! No tools needed, no parts to get lost. Nothing could be simpler. And most important, YOU CAN INSTALL SPIRATUBE YOURSELF. Whatever your ducting requirements, FLEXIBLE's line of tubing will meet them better, cost less.

WRITE TODAY
for this Illustrated Booklet



Flexible Tubing CORPORATION
Guilford, Connecticut Pasadena 1, California

For all ducting systems:
FLEXFLYTE®
SPIRATUBE®
AYRTUBE®

For more details circle NED-364 H3 on enclosed inquiry slip

If you move hot, abrasive materials in your operations, you'll do it faster and more economically with either a Simplicity Os-A-Veyor (oscillating type conveyor) or a Model PT Positive Action Conveyor. Simplicitys are ruggedly built for tough duty. Simple power units and operating mechanism mean low maintenance costs and easy servicing. Model PT conveyors, built in lengths of 100', can be installed in multiples to meet any level-operation requirement. Os-A-Veyor types, available in lengths to 30' and 12" to 6' widths, will operate on an incline depending on product being handled. Simplicity conveyors give positive rate of feed control and handle all kinds of material, regardless of temperature and abrasive characteristics, without damage. Write, wire, or phone . . . today.

92

Simplicity
ENGINEERING CO., DURAND, MICH.

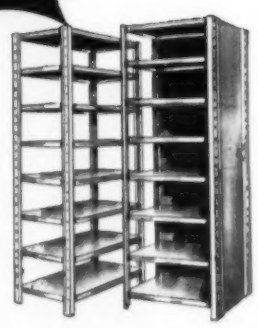
For more details circle NED-365 H3 on enclosed inquiry slip

IMMEDIATE DELIVERY

Equipto
Iron-Grip Steel Shelving

Exclusive stud eliminates nuts, bolts, or tools . . . speeds shelf assembly

- Each shelving unit is complete in itself . . . fits with all other units.
- New units may be added later . . . rearrangements made anytime.
- All shelves are instantly adjustable with studs on 1½" centers. There are no nuts, no bolts, no ungainly clips.
- Unlimited arrangement of units, shelves, and dividers, custom tailor these Equipto stock units to your exact storage needs.



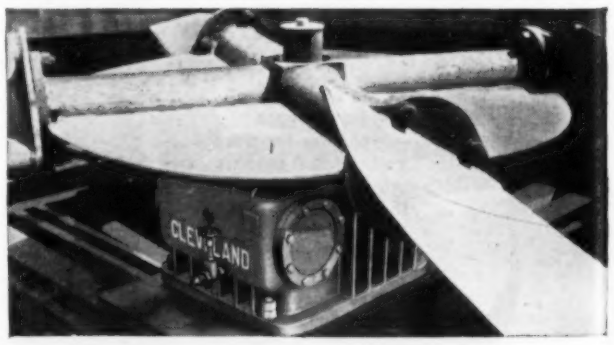
- Units are available in all sizes, either open or closed, with or without dividers, bin fronts, and drawers.

Write Today for Free Catalog of Complete Line

Equipto Division of Aurora Equipment Co. 690 Prairie Ave., Aurora, Illinois
MANUFACTURERS OF STEEL SHELVING . . . PARTS BINS . . . DRAWER UNITS

For more details circle NED-366 H3 on enclosed inquiry slip

QUIET COOLING TOWER DRIVE FOR HIGH SPEED OPERATION



THIS worm gear Cleveland CU unit is designed specifically for cooling tower service. Rugged, efficient, compact, it easily handles heavy-duty fans at high speeds under extreme conditions of heat and humidity—Q-U-I-E-T-L-Y.

Simple in design, foolproof in operation. Easily installed, serviced and adjusted. So inherently quiet as to be ideal for use in air conditioning of industrial and public buildings, offices, stores, hotels, theaters, etc.

Bulletin 135 gives sizes, dimensions and horsepower ratings. Write for yours today. The Cleveland Worm & Gear Company, 3283 East 80th Street, Cleveland 4, Ohio.

CLEVELAND WORM & GEAR COMPANY
Speed Reducers
Affiliate: The Farval Corporation, Centralized Systems of Lubrication

For more details circle NED-367 H3 on enclosed inquiry slip

If I had to get along with only one LIFT TRUCK...I'd choose the

HYSTER YT-40

4000-pound Capacity • Pneumatic Tires

Here's why: It's rugged and fast enough for *big* outside jobs—yet *small* enough for close-quarter inside work. Big pneumatic tires iron out the rough spots—give plenty of traction through mud and snow.

The YT-40 works around the clock with minimum attention.

See it at your Hyster dealer, or write for Catalog 1016 to:

HYSTER COMPANY
2906 N. E. Clackamas, Portland 8, Ore.
1012-06 Myers Street, Danville, Ill.

THERE'S PROFIT IN HYSTER POWER

Be Sure to Call HYSTER Before You Buy ANY Lift Truck!

HYSTER COMPANY • FOUR FACTORIES: Portland, Oregon; Peoria, Illinois; Danville, Illinois; Nijmegen, The Netherlands

▲ For more details circle NED-368 H3 on enclosed inquiry slip ▲

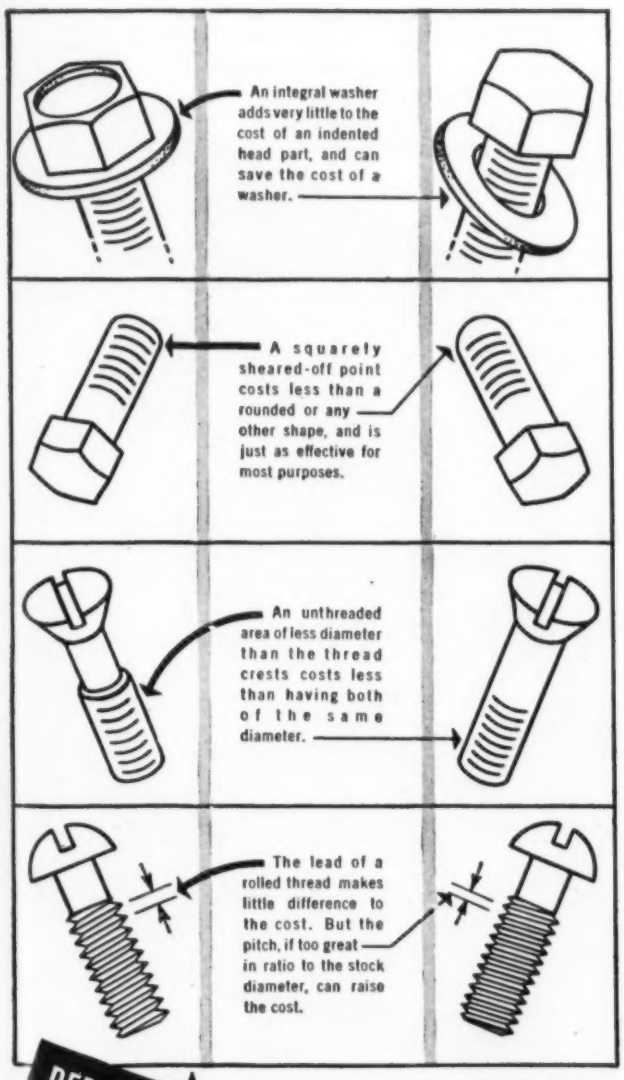
MORE WAYS TO

SQUEEZE PENNIES

OUT OF

UPSET SPECIALS COSTS

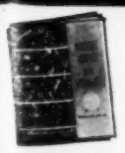
Specially designed upset products are solving thousands of problems. Dozens of design pointers on them are yours for the asking. Send us your sketches, prints, finished products for suggestions.



REPRINTS *of this chart are available on request for use in drafting and purchasing departments.*

QUALITY PROMCO BRAND

MACHINE SCREWS AND SPECIAL FASTENERS ARE OUR BUSINESS

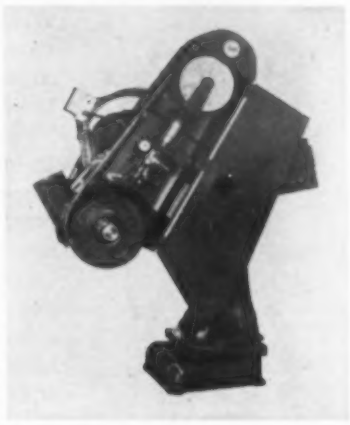


WRITE FOR OUR CATALOG

THE PROGRESSIVE MANUFACTURING COMPANY
46 NORWOOD ST., TORRINGTON, CONN.

▲ For more details circle NED-369 H3 on enclosed inquiry slip ▲

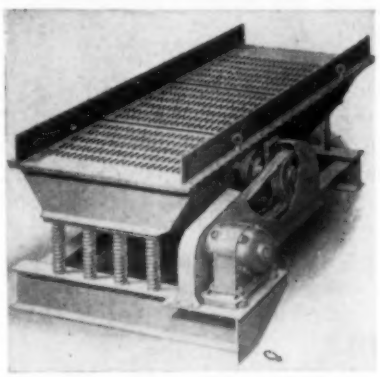
ABRASIVE BELT ATTACHMENT for polishing or buffing head units



Operable at any convenient angle, model DL abrasive belt attachment adapts any standard polishing or buffing head unit to abrasive belts in addition to wheels and buffs. Belt tension is air regulated, and is readily set from a gage and valve up to 600 lb. This tensioning unit is provided with a quick release for belt changing. Other features include a dust hood with 6-in. suction outlet, overall length of which is 58 in. Contact wheels of 12, 14, or 16-in. diameter can be used. Made by **Divine Brothers Co.,** 201 Seward Ave., Utica 1, N. Y.

▲ For more details circle NED-370 H3 on enclosed inquiry slip ▲

FOUNDRY SHAKEOUTS medium duty models added to line



With capacities up to 5000 lb, four medium duty shakeout models have been added to the Link-Belt line. They provide fast separation of castings from flasks and molds, hasten reduction of sand lumps, tend to eliminate flask damage and simplify reclamation of reinforcing rods, gaggers and sprues. Features include a motion limit during acceleration and deceleration, eliminating the hazard of vibration during the critical speed range. The vibrating mechanism operates dependably under severe dust and temperature conditions, with oversize roller bearings, cartridge mounted for accurate alignment. Units are available in either horizontal or self-discharging inclined types in all sizes. Made by **Link-Belt Co.,** Dept. NED, 307 N. Michigan Ave., Chicago 1, Ill.

▲ For more details circle NED-371 H3 on enclosed inquiry slip ▲

Package Handling Conveyors

Oliver Corp., A. B. Farquhar Div.—16-page illustrated bulletin 400 describes complete line of Farquhar package handling conveyors, including portable and fixed power belt units, roller and wheel gravity units featuring Black Velvet process and the Expand-O-Veyor with extendable boom. Complete specifications are given.

▲ For more details circle NED-372 H3 on enclosed inquiry slip ▲

Check up

ON THE 132 USES FOR SPENCER VACUUM...

It's a new tool for industry that is eliminating tedious, time consuming jobs. It handles hot materials, reclaims metals, picks up liquids, removes dirt and dust at assembly and inspection benches and from the finished goods.

And at night the same Spencer System can clean immense floor areas in the factory, and clean and polish the floors, furnishings, and equipment in your offices. Sizes from ½ to 100 HP. Ask for the bulletin "132 Unusual Uses."

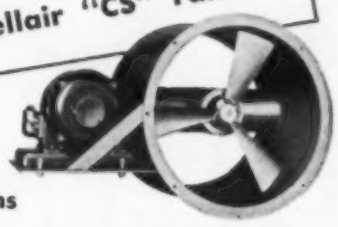
THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT

SPENCER HARTFORD

466-K

▲ For more details circle NED-373 H3 on enclosed inquiry slip ▲

EXPEL GASES, EXPLOSIVE FUMES AND DUSTS with Propellair "CS" Fans



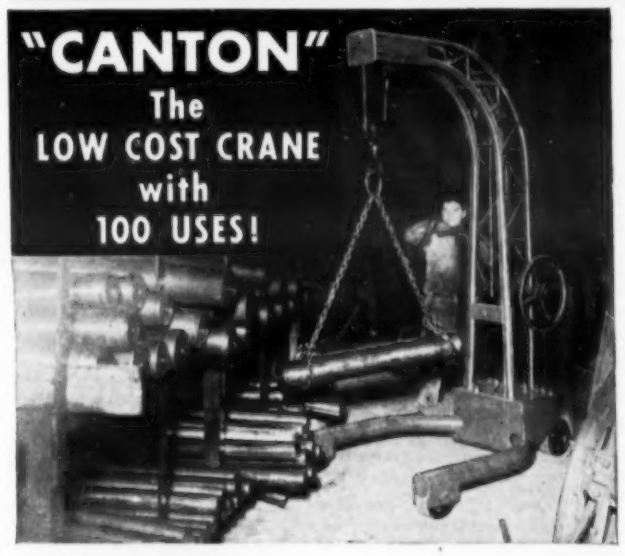
Widely used under acid and alkali conditions

■ Propellair's "CS" Fan is a rugged, heavy-duty unit for duct installation. The cast aluminum airfoil propeller is housed in a heavy-gauge steel duct section with steel belt guard and internal bearing support. All-welded construction. *R&M All-Weather Motor* located outside airstream. Sizes from 20" to 60", with certified air deliveries of 3750 to 85,000 c.f.m. Also available with corrosion and abrasion-resisting finishes and with ventilated bearings for high temperatures. Write for Bulletin 3082-N.

PROPELLAIR®

DIVISION OF ROBBINS & MYERS, INC., SPRINGFIELD, OHIO

▲ For more details circle NED-374 H3 on enclosed inquiry slip ▲



Here is one of 100 lifting and transporting jobs made easy with a CANTON Portable Floor Crane. Loads up to three tons can be moved anywhere in your shop by one man—safely, efficiently and economically. Made of light-weight tubular steel in eight sizes. Bulletin N-52 gives details.

The HILL ACME CO.
"CANTON" DIVISION 1201 W. 65TH ST., CLEVELAND 2, OHIO

▲ For more details circle NED-375 H3 on enclosed inquiry slip ▲

POLYKEN TAPE

cuts water damage claims more than 50%

In six months Carolina Freight Carriers Corp., Cherryville, N. C., cut water damage claims more than 50%. The method: sealing trailer doors with Polyken Tape No. 215.

After a lot of experimenting, this company is convinced that there isn't a tape in the field that will do this job as well as Polyken Tape No. 215. This is a strong, inexpensive and weatherproof cloth tape. Excellent tack makes this tape easy to apply; and superior adhesion makes it hold in spite of vibration, wind, rain and snow. No wonder the men at Carolina say Polyken Tape No. 215 has "*all* the necessary qualities incorporated in one tape."

This is a typical example of the way Polyken Tapes can cut costs for you. Write for free samples and complete information. Polyken, Dept. NE11, 222 West Adams Street, Chicago 6, Ill.

Polyken®

INDUSTRIAL TAPES

Department of Bauer & Black • Division of The Kendall Company

▲ For more details circle NED-376 H3 on enclosed inquiry slip ▲

Specialize

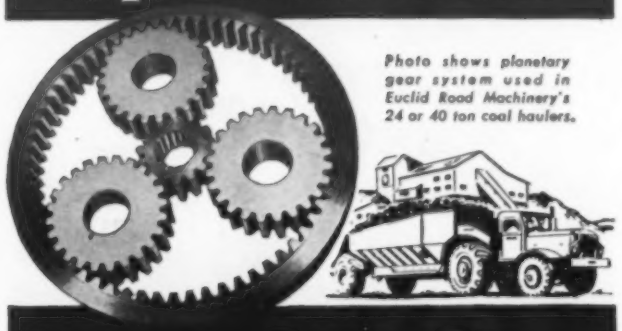


Photo shows planetary gear system used in Euclid Road Machinery's 24 or 40 ton coal haulers.

Standardize

GEARS OHIO REDUCERS

● Ohio Gears are at work in all their glory when operating for Euclid Road Machinery, world's leading manufacturer of heavy duty coal haulers and earth moving equipment. Here's where gear engineering, strength and durability meets its test, on long hauls, up and down steep grades, forward and backward over broken terrain, at any angle, pushing and pulling 25 or 40 ton loads on 4 wheel planetary gear drives, at various speeds, tensions and stresses. All this on Ohio Gears, every day, year in and year out, with engineering in every ounce of metal and every measurable gear dimension . . . Euclid Road Machinery demands dependable gears. Perhaps your products need such mechanical insurance. See our nearest distributor or write direct.

ESTABLISHED 1915
THE OHIO GEAR COMPANY
1320 EAST 179th STREET • CLEVELAND 10, OHIO

OHIO GEARS

▲ For more details circle NED-378 H3 on enclosed inquiry slip ▲

MYSTIK® BRAND TAPES • SELF-STIK

Protecto-Mask

eliminates costly refinishing!

Highly polished surfaces on aluminum, stainless steel, plastics, glass . . . metals and materials of all kinds . . . *must* be protected from costly scratches, in fabrication, storage, shipment.

MYSTIK® Brand Protecto-Mask is *self-stik* . . . easily applied directly from the roll for a tough, scuff-resistant "skin." Adheres instantly, yet peels off easily without leaving residue. Can also be used for layout and diagramming.

WRITE TODAY for information and samples. Mystik Adhesive Products, 2657 North Kildare Ave., Chicago 39.

Trademark Mystik Registered ©Mystik Adhesive Products, 1953

▲ For more details circle NED-379 H3 on enclosed inquiry slip ▲

Looking for a Better Conveyor?

Then You Want This Book

If your conveying problem involves cans, bottles, jars, packages, small parts or almost any other small unit, you'll want this new book on Rex TableTop® Chain. The book explains all the advantages of TableTop's simplicity...how it reduces maintenance...speeds production ...helps cut conveying costs.

There are also sections on two other great conveying chains—Rex FlexTop® and Baldwin Rex PlateTop®. Just use the coupon to send for your free copy today.

REX® Chain Belt COMPANY OF MILWAUKEE

Chain Belt Company 53-102
4686 W. Greenfield Avenue
Milwaukee 1, Wisconsin
Please send me TableTop Chain Bulletin 53-60.
Name.....
Company.....*Dept*.....
Address.....
City.....*State*.....

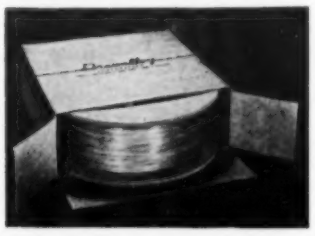
▲ For more details circle NED-380 H3 on enclosed inquiry slip ▲

DADO SAW
features rapid width adjustment

Width of cuts can be varied from 3/16 to 1-in. as desired without demounting the Multi Cut dado saw from its arbor. Sizes of 6, 8 and 10-in. are available. One-piece construction in nickel chrome steel is featured. It is reported that the saw cuts clean square grooves without burning, and without splintered edges. It is an all-purpose type, and is equally useful for the shop requiring frequent changes and for production work. Made by **Western Saw Manufacturers, Inc.**, Dept. Z, 1842 W. Washington Blvd., Los Angeles 7, Calif.

▲ For more details circle NED-381 H3 on enclosed inquiry slip ▲

SPOOLED WELDING WIRE
in diameters 0.035 to 3/32-in.



Spooled wire in diameters from 0.035 to 3/32-in. in all stainless steel grades for automatic inert arc welding is now obtainable. Wire is precision-wound on labeled spools easy to identify, stock and handle. Extra-heavy expendable plywood spool contains about 25 lb of wire and is packed in sturdy carton. Made by **Drawalloy Corp.**, Dept. 3, Lincoln Highway West at Alloy St., York, Pa.

▲ For more details circle NED-382 H3 on enclosed inquiry slip ▲

LABORATORY MILL
for grease, paint, foodstuff, etc.

Smallest in line of mills for laboratory processing and control work, this midget unit is 23¼ in. high, 8¼ in. diameter and weighs 41 lb. It operates on the principle of a Carborundum stone revolving at high speed against a stationary Carborundum stone. Material to be processed is fed between the stones. Output rates vary from 1 to 3 gpm, depending upon the material. Clearance between stones can be varied in 1/1000-in. increments. Chamber is highly polished for easy cleaning. Power is supplied by a ¾-hp 110-v motor. All motor and mill bearings are factory lubricated. Made by **Morehouse Industries**, Dept. M, 1156 San Fernando Rd., Los Angeles 65, Calif.

▲ For more details circle NED-383 H3 on enclosed inquiry slip ▲

accurately controlled electric heat

HEATING LIQUIDS
MELTING SOLIDS
in Tanks and Vessels

WATLOW
IMMERSION HEATERS

The most efficient method of heating fluids in tanks, kettles, steam tables, boilers, etc. Watlow Units are designed for low internal operating temperatures —which results in maximum life. Available in brass, steel or nickel alloy, also stainless steel sheaths, for maximum corrosion resistance. Standard sizes: ¾" to 2" dia.; 3½" to 60" lengths; 10W-35W densities. Special sizes and shapes built to your specifications.

Send for your free copy of Watlow Electric Heating Units Catalog.

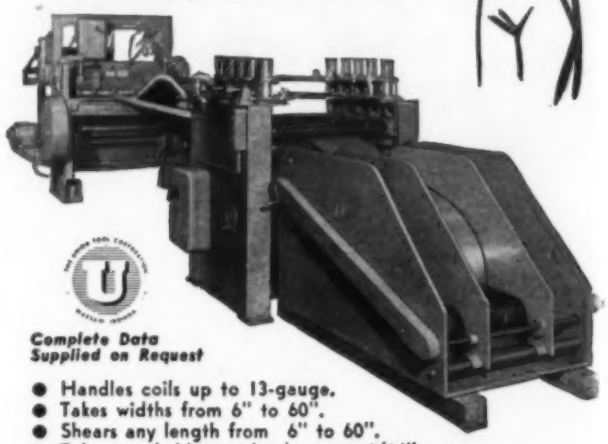
WATLOW ELECTRIC MFG. CO.
Since 1922—Designers and Manufacturers of Electric Heating Units
1374 FERGUSON AVE.
SAINT LOUIS 14, MO.

▲ For more details circle NED-384 H3 on enclosed inquiry slip ▲

WITH ONLY ONE OPERATOR THIS UNION MACHINE

● DE-COILS
● LEVELS
● SHEARS
● STACKS

CUTS LABOR COSTS
AUTOMATICALLY
CUTS MATERIAL COSTS
Buy in coils and cut sheet lengths as needed. No delay.



Complete Data Supplied on Request

● Handles coils up to 13-gauge.
● Takes widths from 6" to 60".
● Shears any length from 6" to 60".
● Tolerance held to only + or — 1/64".
● Only one adjustment to change lengths.
● Speeds to 150 l.f.p.m. depending on lengths cut.
● Neatly stacks sheared pieces automatically.
● Will handle steel, aluminum, etc.

UNION TOOL CORP.
318 E. MARKET ST., WARSAW, IND., U. S. A.

USERS SAY UNION CUTS COSTS, SPEEDS PRODUCTION

▲ For more details circle NED-385 H3 on enclosed inquiry slip ▲

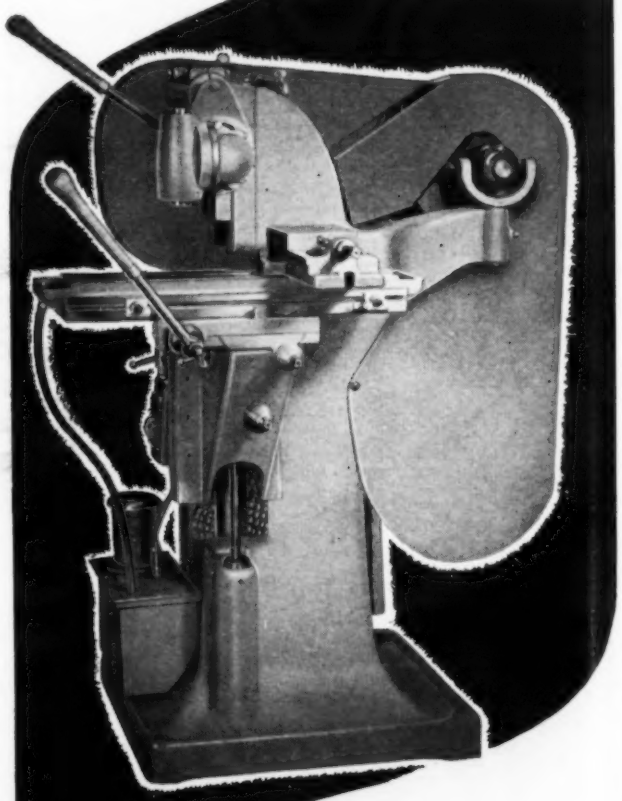
Cut Costs

on Tool Room, Development and Mass Production Milling with

U. S. No. 1

HORIZONTAL MILLING MACHINES

Time-proved, shop-proved, profit-proved "U. S. No. 1" heavy duty, hand-feed milling machines are outstandingly America's No. 1 Machine Tool value. Easily adapted to production with automatic devices.



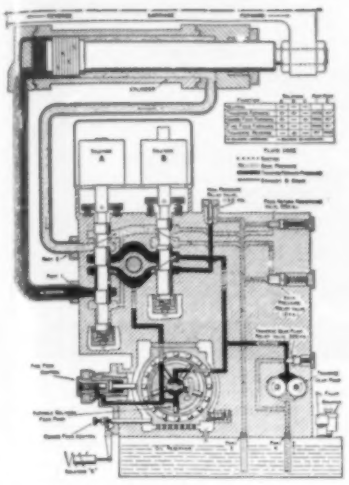
SEND FOR DATA AND SUGGESTIONS

Suggestions as to how a U. S. No. 1 Milling Machine can cut costs on your particular production needs, as well as complete data on the basic machine and attachments, gladly furnished on request.

THE U. S.-BURKE MACHINE TOOL DIV.
Brotherton Road 2,
Cincinnati 27, Ohio

▲ For more details circle NED-386 H3 on enclosed inquiry slip ▲

ANY-FEED Oilgear Power Unit



For machine tool and other straight-line feeds

An amazing little fluid power feed pump for practically any machine tool or straight-line feed installation you can think of. It embodies the *Any-Feed* Oilgear Fluid Power unit with a 20:1 range and rapid traverse as high as 265:1 over feed rate. It provides undeviating precision day in and day out once the feed rate is set.

It installs *into* your assembly easily, or mounts nearby or remotely. Yet control of the many possible functions is found in the electric pushbutton station; or partial or completely automatic operation is available. It affords complete operating safety for all action is instantly neutralized in case of accident. All parts are completely and easily accessible. The design is simple; you mount, connect two pipes and control wires. Write for descriptive Bulletin 44200 now while you think of it. THE OILGEAR COMPANY, 1582 West Pierce Street, Milwaukee 4, Wisconsin. *Advt.*

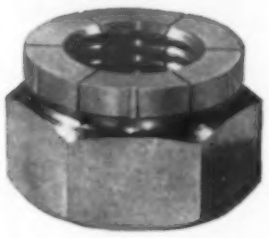
▲ For more details circle **NED-387 H3** on enclosed inquiry slip ▲

DEBURRING MACHINE will clean internal surfaces

Offered as bench unit and as attachment for portable hand models, this power-belt grinder will deburr, grind and polish internal and external surfaces with equal facility. All models are equipped with automatic belt tension regulator, sealed bearing idler pulley and platen backing on one side for flat work. The opposite side of belt run is unbacked for contour polishing. Bench models are available with ⅓ and ½-hp motors and variety of arm styles. They will work in holes of 1¾-in. diameter or over. Attachments fit all popular makes of portable hand grinder, and utilize 12 x 1-in. belts with wide choice of abrasives. Made by **United Machine Tool Co.**, 1903 Clyde Park Ave. S.W., Grand Rapids, Mich.

▲ For more details circle **NED-390 H3** on enclosed inquiry slip ▲

one standard FLEXLOC SELF-LOCKING NUT



covers temperature range to 550°F

Because they are all metal and require no auxiliary locking device, FLEXLOCs lock and stay tight even at higher temperatures. See your local industrial distributor for literature and samples or write SPS, Jenkintown 24, Pa.

Our Fiftieth Year: A START FOR THE FUTURE

FLEXLOC LOCKNUT DIVISION

SPS JENKINTOWN PENNSYLVANIA

▲ For more details circle **NED-393 H3** on enclosed inquiry slip ▲

NEW FRACTIONAL H.P. STARTER HAS ALL THE FEATURES!

- ✓ Quick-make, quick-break contact mechanism
- ✓ Single or double pole construction
- ✓ Double-break contacts of fine silver
- ✓ Modern styling
- ✓ Straight-thru wiring with convenient terminals—generous wire space
- ✓ Dependable melting alloy type overload protection—trip-free
- ✓ Definite trip indication
- ✓ Interchangeable overload relay units accessible from the front
- ✓ Open type starter can be used with standard switch box and flushplate

RATINGS: *Double pole: 1 H.P., 115—230 volts A.C. or D.C. Single pole: 1 H.P., 115—230 volts A.C. and ½ H.P., 115—230 volts D.C.*

Write for Bulletin 2510A. Address Square D Company, 4041 N. Richards St., Milwaukee 12, Wisconsin.

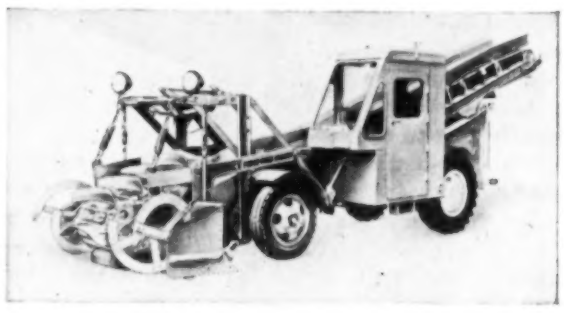
ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

▲ For more details circle **NED-388 H3** on enclosed inquiry slip ▲

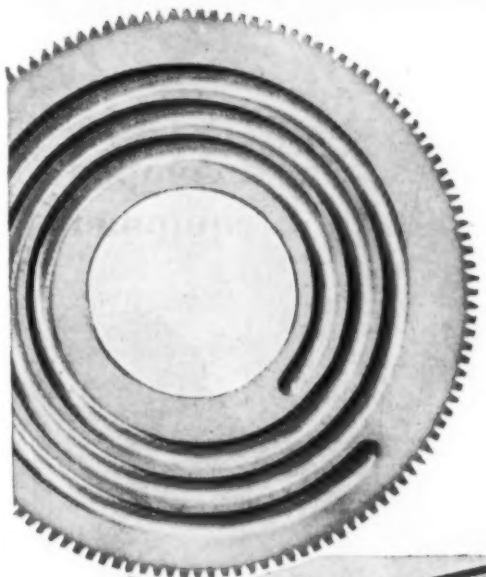
STOCKPILE LOADER attachment for force-feed loader

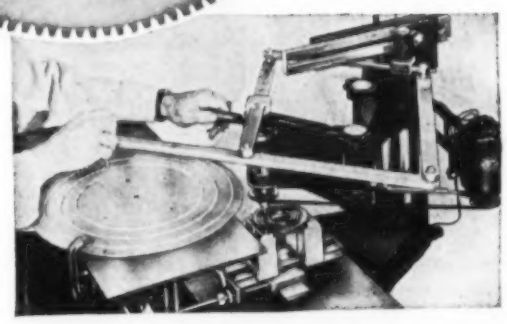
Designated the Bulldozer Moldboard-Auger Feeder, this stockpile loading attachment for a model 3 Force-Feed loader makes possible a constant stream of free-



flowing stockpiled material at volumes up to 10 cu yd per minute. The auger type mechanism is suited to loading coal, gravel, coke, dry chemicals, etc. Attachment is available as original equipment or as an attachment for machines in use in the field. It has a 90-in. width of gather and has hydraulic down pressure on reversible cutting edges. Sideboards can be reversed (as shown) for loading from windrow, or set (as shown by dotted lines) for loading from stockpile. Made by **Athey Products Corp.**, Dept. NED-3, 5631 W. 65th St., Chicago 38, Ill.

▲ For more details circle **NED-391 H3** on enclosed inquiry slip ▲





PANTOGRAPHIC MILLING OF SPIRALS

ON METALS AND PLASTICS

rapidly done by unskilled labor with

Engravograph

Write for Literature
Catalog H 26 Bench Type Model (weight 200 lbs.)
Catalog IM 26 Portable Model.

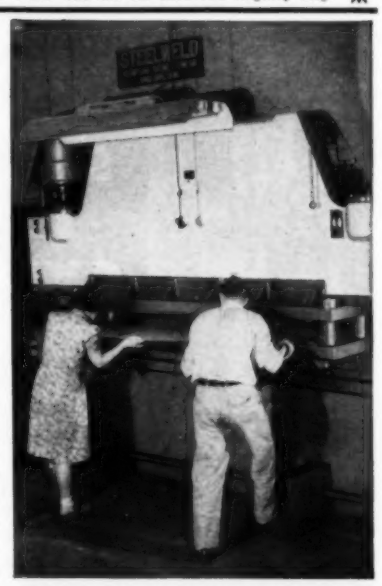
Production: 6" brass spiral with ¼" x ¼" groove cut from 3 times larger template. Time: 12 units per hour.

NEW HERMES, INC. 13-19 University Place, N. Y. 3

Representatives in all principal cities. Canada—359 St. James St., Montreal

▲ For more details circle **NED-394 H3** on enclosed inquiry slip ▲

BLANK AND EMBOSS WITH A VERSATILE STEELWELD PRESS



4800 panels of 26 ga. metal for 12" x 24" sound-deadening cells are blanked out and embossed per 8-hour day with this Steelweld Press. This versatile machine also does bending, punching, flanging, etc. in various thickness metals to one inch quickly and efficiently.

It is easy to change dies from one job to another or repeat runs of work to close tolerances.

STEELWELD BENDING PRESSES CATALOG No. 2010

Send for free copy of catalog No 2010

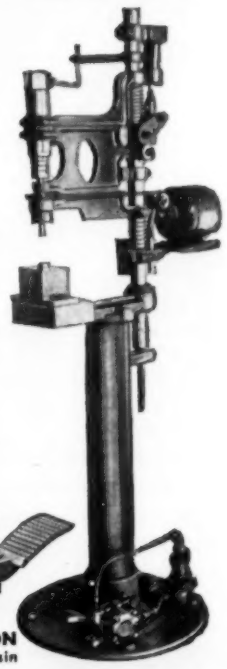
THE CLEVELAND CRANE & ENGINEERING CO.
6639 East 281st St. Wickliffe, Ohio

STEELWELD PRESSES

▲ For more details circle **NED-389 H3** on enclosed inquiry slip ▲

Airflex Pneumatic Riveters

Controlled by NOPAK Model "R" Foot Valve



A touch of the foot pedal on the NOPAK model "R" Foot Valve . . . which is coupled to a special timing valve . . . initiates an automatic riveting sequence on this and other models of the Airflex Riveter made by the Lemert Engineering Company, Plymouth, Ind. Operator fatigue is minimized and production is increased substantially by this successful application and precision control of air power.

NOPAK 3- and 4-Way Foot Operating Valves are used in many ways on many different types of equipment for the precision control of air power applied to various machine movements. Ask your NOPAK representative to show you other examples in the NOPAK Application Manual.

GALLAND-HENNING NOPAK DIVISION
2755 S. 31st Street • Milwaukee 46, Wisconsin

Write for NOPAK Bulletin SW-1

•

Representatives in Principal Cities

NOPAK VALVES AND CYLINDERS
DESIGNED for AIR and HYDRAULIC SERVICE

A 7503-1/9-AA

▲ For more details circle **NED-392 H3** on enclosed inquiry slip ▲

In production or in storage

IRONBOUND EQUIPMENT HANDLES SMALL PARTS MORE EFFICIENTLY

Standard 2-way entry bolted type skid built to handle loads up to 5 tons.

Standard box top welded to standard skid. Available too, with removable boxes. Handles many items in production and storage.

Flexible arrangement of boxes and skids permits tiering and stacking to meet your individual requirements. Provides quick availability, easy handling, or storage for complete units or parts.

Each of the units illustrated has an important use in modern industry. Ironbound skid platforms and box tops are prime sources of increased plant capacity so vitally needed today. Our representative can help you to increase your output and plant space. Catalog GP-7 may help you, too!

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
55 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

For more details circle **NED-395 H3** on enclosed inquiry slip

NEWEST

in industry's most complete line of filtration equipment

HOFFMAN *Vacu-matic* **FILTER**

for automatic, continuous filtering of water soluble coolant from grinders, hones and other machine tools

Write for Bulletin A-915

Once again Hoffman meets your particular filtration problem with equipment specifically designed for the job! The "Vacu-matic," a continuous suction, endless belt filter, serves individual machines with clean coolant *automatically*. Uses vacuum (not gravity) for high flow rates — coolant is drawn through belt which deposits solid particles as dry sludge in tote box for easy removal.

Air moving through the filter belt not only dries the sludge, it keeps coolant at or below room temperatures—reduces bacteria common to dirty coolant. The "Vacu-matic" is complete, compact, ready for hook-up on present machines. Two sizes — for 20 g.p.m. and 40 g.p.m.

High Flow Rate • Self-Cleaning
Dry Sludge • Keeps Coolant Cool

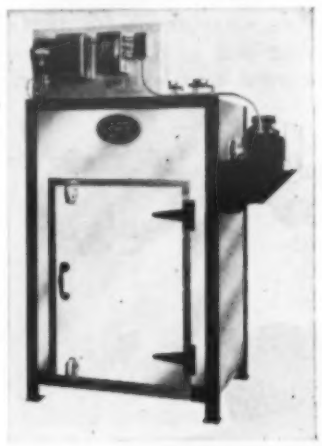
Hoffman's nationwide staff of filtration engineers is ready now to give you details on how "Vacu-matic" can protect the production of your machine tools. Like all Hoffman specialized filtration equipment, the "Vacu-matic" is designed to pay for itself by reducing down time, extending tool life, and safeguarding quality control. Write today for free technical bulletins.

For Groups of Machines
HOFFMAN FLOTATION SYSTEMS—*20 to 1,000 g.p.m.*
Fully Automatic
Write for Bulletin A-690

TOPS IN VALUE SINCE 1905
Hoffman
INDUSTRIAL FILTRATION EQUIPMENT & SERVICE
U. S. HOFFMAN MACHINERY CORP., 225 LAMSON STREET, SYRACUSE 6, N. Y.
In Canada: Canadian Hoffman Machinery Co., Ltd., Newmarket, Ont.

For more details circle **NED-396 H3** on enclosed inquiry slip

BATCH LOADING OVEN
reaches 650° F in 20 minutes



Designed for drying, curing, pre-heating, baking and heat treating, this batch loading oven will reach a temperature of 650° F in 20 minutes (oven empty). Construction is of angle iron outer framing and Armco aluminized sheet steel inside and out. Six-pound density insulation in 3-in. double wall assures minimum heat loss. Asbestos gasketed door is offset for accessibility. Unit is equipped with explosion-relief snap action latches in case of excessive internal pressure. Cross flow air circulation is by means of propeller fan, and heating element cannot be turned on unless fan is running. Inside measures 24 x 24 x 36 in. Made by **New England Oven & Furnace Co.**, Post Rd., Orange, Conn.

For more details circle **NED-397 H3** on enclosed inquiry slip

UTILITY WORK BENCH
steel construction for medium duty

All-steel work bench for medium-duty jobs is 48-in. long, 23¾-in. wide and 32½-in. high. It is fitted with a welded steel sliding drawer with padlock attachment, and also has a full length steel shelf. The finish is forest green, and steel tops have replaceable ¼-in. tempered Masonite surface. All bolt holes are punched so that benches can be assembled continuously end-to-end or back-to-back without drilling. Holes are also punched for easy fastening to walls or floors and for the attachment of tool boards. Made by **Benchcraft, Inc.**, 3667 Olive Street, St. Louis 8, Mo.

For more details circle **NED-398 H3** on enclosed inquiry slip

Wire Thread Insert Uses

Heli-Coil Corp.—Completely revised 22-page catalog No. 652 presents uses of wire screw thread inserts in design, production, salvage and maintenance. Photos, drawings, text and tables explain threaded insert use in all materials to provide higher loading strengths and greater resistance to wear, seizing, stripping, galling and corrosion. Sections on design, hand and power tools, taps, gages and minimum drilling and tapping depths are included.

For more details circle **NED-399 H3** on enclosed inquiry slip

Garland Rawhide Mallets and Hide-Faced Hammers are made of resilient Water Buffalo Hide, the toughest rawhide known. Will not damage steel, iron, brass, aluminum or other soft metals.

Longer wear and uniformly exact size result from compression under many tons pressure.

Extra faces fit securely without grinding.

Write for free folder listing sizes, weights, and prices.

We will send you the name of your local dealer on request.

Garland MFG. CO. SACO, MAINE
Manufacturers of Rawhide Hammers, Mallets, Loom Pickers

For more details circle **NED-400 H3** on enclosed inquiry slip

PRESS SCRAP INTO **PROFIT** *WITH A*

MILWAUKEE BRIQUETTING PRESS

Dense cylindrical briquettes produced by the MILWAUKEE briquetting press classify as high grade scrap . . . assure closer control of machinable metals. As a result, briquettes of steel, aluminum, cast iron, bronze, magnesium, brass and other metals can be charged directly into a furnace or foundry cupola. Briquetted turnings, borings and chips are easily stored for future use, reducing dependence on outside material sources.

Profits from converting low-grade bulk scrap are high . . . many users of a MILWAUKEE press write off entire cost of machine in one year! Six models available to meet a wide range of converting requirements.

Write today for Bulletin No. 117 for complete details.

1410-S3

MILWAUKEE *Foundry Equipment Division*
6475 GRAND DIVISION AVE. • CLEVELAND 25, OHIO

For more details circle **NED-401 H3** on enclosed inquiry slip

In big letters they spell

YES, big letters because in Nicholson and Black Diamond files quality has a BIG MEANING. It is quality that serves in many ways. For example: to the industrial concern it brings *greater filing efficiency, faster production, longer file life.* Whether the results are increased savings or increased earnings, they are bound to contribute to the profit side of the user's ledger.

The sources of that quality are manifold, too. They are all wrapped up in eighty-nine years of earnestness toward giving file-using industries the utmost in steel selection, file designing and manufacturing techniques.

And our policy of selling only through Industrial Distributors means that we are providing you with an efficient source of supply and also with helpful assistance in selecting *THE RIGHT FILE FOR THE JOB.*

NICHOLSON FILE CO., 23 Acorn St., Providence 1, R. I.
(In Canada, Port Hope, Ont.)

NICHOLSON FILES
FOR EVERY PURPOSE are sold through Industrial Distributors under the policy of *Twelve Perfect Files in Every Dozen*

Do you use them?
Could you use them?

STAINLESS STEEL CYLINDERS

Thin gauges our specialty

- Diameters ..... 1½" to 24"
- Lengths ..... 2" to 24"
- Walls ..... .018" to .109"
- Perfect edges
- Plain or Perforated
- Polished or Unpolished
- Economical quantity production

Ideal wherever sanitation or corrosion resistance are needed. Fabricated to close tolerances with welds visible or invisible. Secondary operations available—rolling grooves, flanging ends or attaching bottoms.

Tell us your needs for recommendation and quotation.

METALSMITHS
Div. of Orange Roller Bearing Co., Inc.
572 White St., Orange, N. J.

For more details circle **NED-402 H3** on enclosed inquiry slip

A NEW CASE STUDY FILE

For Low Cost Handling

Here's a brand-new case study file which contains the first of a continuing series of case studies covering many successful American MonoRail installations.

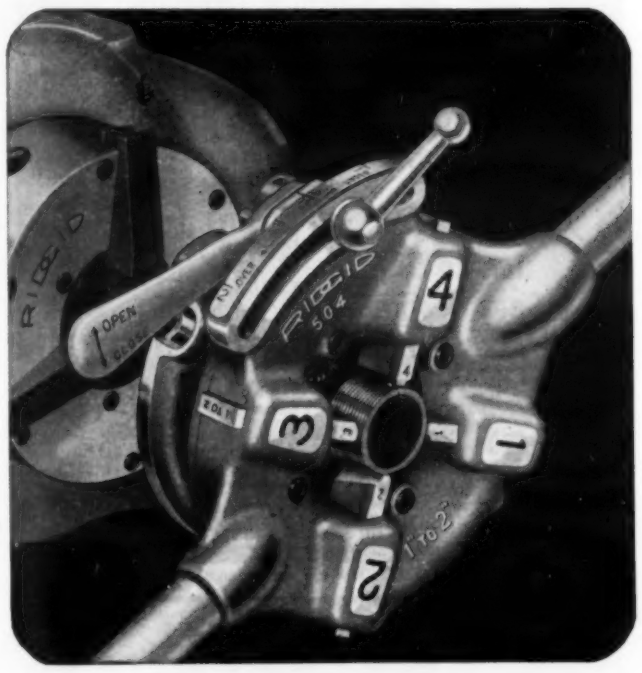
Check your handling problems against these "Engineered Applications" of American MonoRail systems.

Send today for original file. Future studies will reach you as published.

THE AMERICAN MONORAIL COMPANY
13116 Athens Avenue • Cleveland 7, Ohio

For more details circle NED-403 H3 on enclosed inquiry slip

NEW RIDGID
Quick-Opening
"504" PIPE THREADER
for Power Drive use



Threads 1" to 2" pipe with 1 set of dies

You can't beat this new "504" for fast smooth threading with power drive! Changes instantly from size to size regardless of position of quick-opening lever . . . Release ball handle, move indicator line to 1", 1¼", 1½" or 2" on size bar, tighten—it's ready to thread! Quick-opening handle retracts dies instantly without stopping power drive—no slow backing off. 4-jaw workholder centers pipe for accurate threading. No lead screw to jam. Easy-to-read size bar. Adjustable to over and under size threads. See it . . . try it . . . buy the new "504" at your Supply House.

THE RIDGE TOOL COMPANY • ELYRIA, OHIO

RIDGID
Work-Saver Pipe Tools

For more details circle NED-404 H3 on enclosed inquiry slip

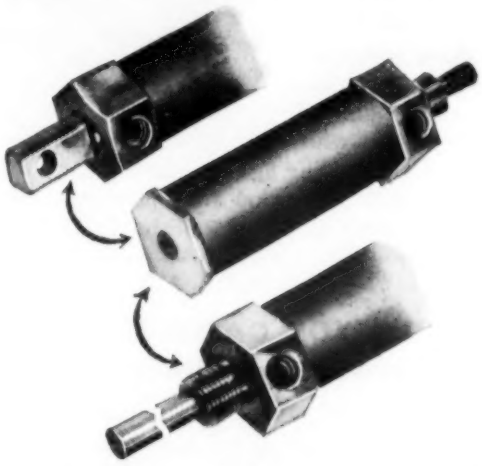
INSPECTION LIGHTS
light source goes through ½-in. hole

Particularly useful for inspection where small openings are common, such as business machines, refrigerators, tool and die work and foundry cores, the light assemblies of both models of this small, battery-operated inspection light will pass through holes as small as ½-in. Barrels are of all-metal construction, and take standard dry cells. A heavy-duty switch slides the batteries into contact with the bulb wire contained in the flexible woven metallic shielding of the extension. Made by **Ericson Mfg. Co.,** 5209 Euclid Bldg., Cleveland 3, O.

For more details circle NED-405 H3 on enclosed inquiry slip

AIR-HYDRAULIC CYLINDER
has threaded nose on either end

Adaptable for 300 psi hydraulic or pneumatic service, the Studmount 1⅛-in. cylinder has a threaded nose on either end. It can be mounted in stud form without



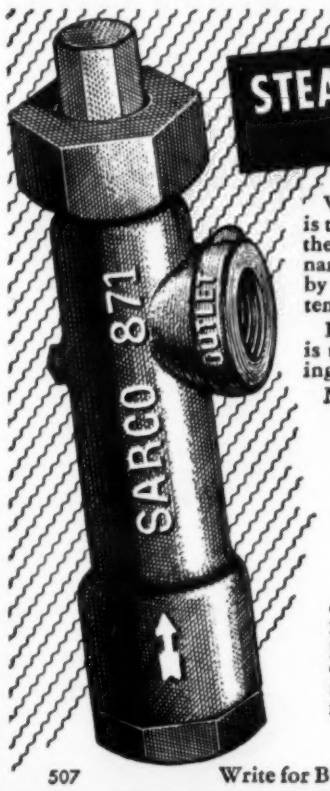
use of brackets, jigs or fixtures, but a line of foot, pivot and flange mountings is available. Interchangeability of heads makes it possible to furnish cylinder in "double ended rod" models. Materials used are corrosion and rustfree. Made by **Pneumatic Products, Inc.,** Magicair Div., Hamden, Conn.

For more details circle NED-406 H3 on enclosed inquiry slip

Safety Equipment Selection

Complete illustrations of all protective equipment for workers in most industries is feature of catalog 16. Hand, body, head, face and eye, foot and leg protective equipment is covered. Requests for catalog should be sent on company letterhead to Parker Safety Equipment Co., 785 Lyons Ave., Irvington 11, N. J.

For more details circle NED-407 H3 on enclosed inquiry slip



STEAM TRAPPING
OUT-DOORS

When steam heated equipment is too far away to permit returning the condensate to the boiler, ordinary steam traps cause much waste by discharging condensate at high temperature.

If equipment is out-doors, there is the further problem of preventing freeze-ups in winter.

Meet both problems with...

SARCO
LIQUID EXPANSION
STEAM TRAPS
No. 871

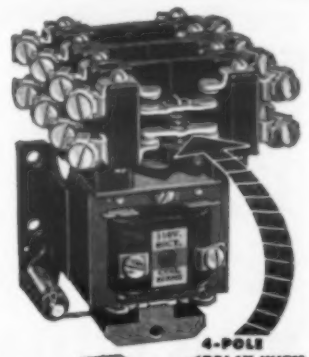
This trap discharges condensate to atmosphere below 212°F regardless of inlet pressure (to 350 psi). When cold, its large discharge valve is wide open, — it cannot freeze.

507 Write for Bulletin 258 for full information.

SARCO SAVES STEAM
SARCO COMPANY, INC.
Empire State Bldg., New York 1, N.Y.
SARCO CANADA, LTD., TORONTO 5, ONTARIO

For more details circle NED-408 H3 on enclosed inquiry slip

Bulletin 700
UNIVERSAL SOLENOID RELAY



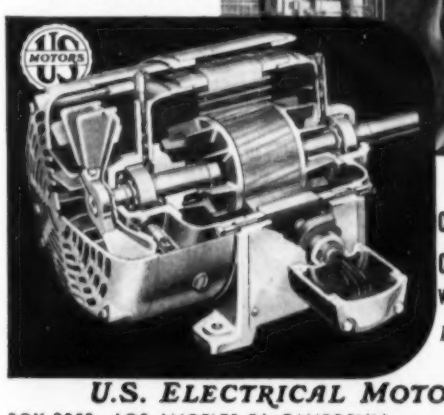
The Allen-Bradley Bulletin 700 universal solenoid relays are a new idea in relay design. The new dual contact arrangement permits quick change from normally open contacts to normally closed contacts by simply shifting connections . . . a simple and easy operation. Only ONE moving part. Rating of 10 amperes at voltages up to 600 volts. Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wisconsin.

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

For more details circle NED-409 H3 on enclosed inquiry slip

U.S. TOTALLY-ENCLOSED Explosion-Proof MOTORS

SAFE *for dangerous damp and dusty locations*



Class I—Group D
Class II—Groups F-G with or without fan
Request Bulletin

U.S. ELECTRICAL MOTORS, Inc.
BOX 2058, LOS ANGELES 54, CALIFORNIA MILFORD, CONN.

For more details circle NED-410 H3 on enclosed inquiry slip

Use Grammes METAL NAME PLATES
For LOWEST COST per good impression!
Get SERVICE you can rely on!

PROMPT DESIGN SERVICE! Your rough sketch or blueprint will bring prompt recommendations and prices. Write for our new booklet, "Tips on Name Plate Selection and Design".

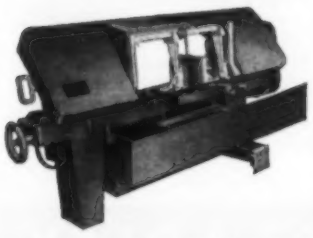
L.F. GRAMMES & SONS INCORPORATED ALLENTOWN, PA.
NAME PLATES DIALS TRIMS • BEZELS PANELS
SPECIALISTS IN DECORATIVE METAL

For more details circle NED-411 H3 on enclosed inquiry slip

Kalamazoo

METAL CUTTING BAND SAWS

No stooping, no fumbling... just swing saw cover open and everything is at your fingertip. Release blade tension, remove blade, insert new one and tighten. It's as simple as that! Result? Minimum loss of time, less chance of damage to blade and of injury to operator.



This is but one of many exclusive Kalamazoo features that add up to lowest cost intermittent or continuous cutting. It will pay you to specify Kalamazoo Metal Cutting Band Saws . . . three sizes, available with coolant system and casters.

MACHINE TOOL DIVISION

Kalamazoo TANK and SILO CO.

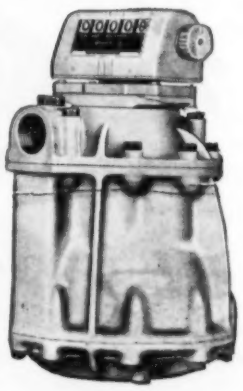
812 HARRISON ST., KALAMAZOO, MICHIGAN

▲ For more details circle NED-413 H3 on enclosed inquiry slip ▲

the standard of accuracy...

BOWSER XACTO

...the World's most widely used meters!



For over a quarter century Xacto meters have brought to industry after industry an entirely new and effective way to measure liquids accurately and dependably.

•

Xacto meters accurately measure and safely handle more than 662 different liquids in processing, blending, packaging and many other operations.

•

There is no substitute for Bowser Xacto meters for checking incoming deliveries, transferring, batching or recording consumption.

•

BOWSER, INC. 1381 CREIGHTON AVENUE FORT WAYNE 2, INDIANA

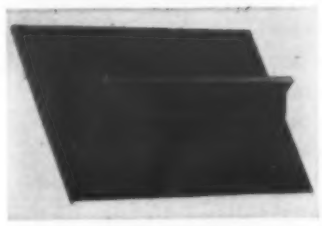
BOWSER

REGIONAL OFFICES

Atlanta • Chicago • Cleveland • Dallas • Kansas City
New York • San Francisco • Washington, D. C. • Hamilton, Ont.

▲ For more details circle NED-414 H3 on enclosed inquiry slip ▲

CONVEYOR BELTING
rubber cleats are part of belt



Originally developed for handling metal stampings, Sky Kleet rubber conveyor belting has rubber cleats incorporated as integral parts of the belt itself. Cleats will not pull off or damage products being conveyed. Cleated belting is available, along with cleats which can be built on any grade of belting ordered. Made by **Goodall Rubber Co.**, 492 Whitehead Rd., Trenton 4, N. J.

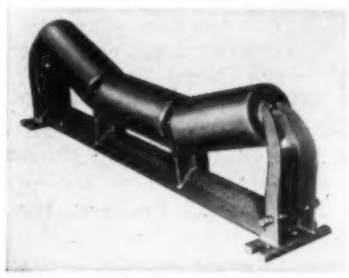
▲ For more details circle NED-415 H3 on enclosed inquiry slip ▲

HAND TRUCK
three-wheel magnesium type

Retractable third wheel on this lightweight magnesium hand truck facilitates carting and wheeling of heavy loads, without load bearing on the operator. When truck is stopped, it can be restarted without the effort normally required to overcome dead load weight. Nose unit extends beyond the wheels on either side to prevent flexible loads from binding against the wheels. All parts are mechanically joined and are replaceable. Made by **Magline Inc.**, P. O. Box 200, Pinconning, Mich.

▲ For more details circle NED-416 H3 on enclosed inquiry slip ▲

BELT CONVEYOR CARRIERS
rolls removable without tools



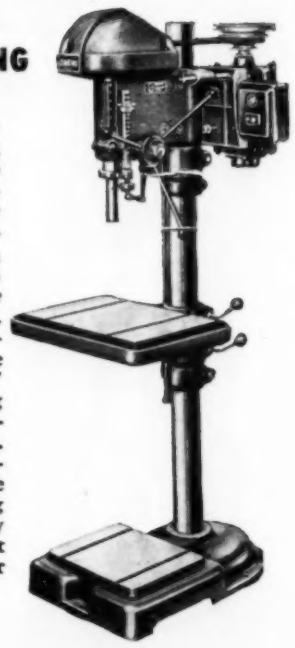
Designed with spun end rolls and welded steel frame, the Simplex 220 series belt conveyor carriers have rolls that can be lifted from the frame without tools for inspection. Seamless steel tube houses tapered roller bearing and is bored for alignment. Die cast labyrinth seal protects the bearing that can be adjusted for proper clearance by taking up nuts which support the rolls in the carrier brackets. Flexible high pressure lubrication tubes can be arranged for three-shot lubrication from one or both sides of the conveyor. Made by **Stephens-Adamson Mfg. Co.**, 12 Ridgeway Ave., Aurora, Ill.

▲ For more details circle NED-417 H3 on enclosed inquiry slip ▲

Atlas CLAUSING PRECISION MACHINE TOOLS ATLAS PRESS COMPANY

18" HEAVY DUTY DRILL PRESS

...FOR BETTER HEAVY DUTY DRILLING



Get these important new drilling advantages with a Clausing 18" Drill Press. The 6½" spindle travel gives bigger job capacity, permits better use of production chucks. Drilling capacity: ¾" in steel, 1" in cast iron. Spindle nose is No. 3 MT. There's 6" to 13" *more* capacity from spindle to table. Spindle is bigger, stronger—handles larger tools. Exclusive vernier control provides .001" depth accuracy. Positioning mechanism saves set-up time—moves *both* head and table. Massive construction, precision-machining throughout, and the smoothness of 5 ball bearing races insure exacting accuracy on every operation. Contact your Clausing distributor, or write for catalog.

CLAUSING DIVISION

ATLAS PRESS CO., 8-113 N. Pitcher St., Kalamazoo, Mich.

▲ For more details circle NED-418 H3 on enclosed inquiry slip ▲

Man-Cooler!

Coppus Airplane Type Heat Killer

cools large areas — restores efficiency

HEAT KILLER on the job in drop forge plant.

Steel mills, drop forge plants, foundries and other plants with hot working conditions find this Coppus Heat Killer increases worker efficiency . . . at reasonable cost. *A single fan cools large areas.*

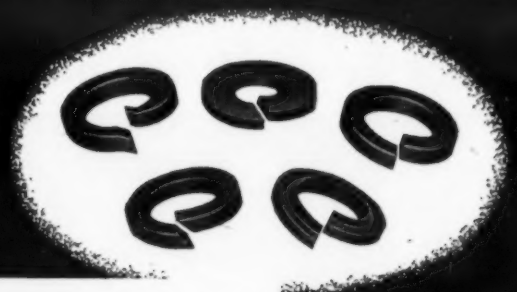
Other types also available for cooling furnaces, electrical equipment, for driving out gases, drying out products, drawing out fumes. Write now for detailed information.

COPPUS ENGINEERING CORPORATION, 408 PARK AVENUE, WORCESTER 2, MASSACHUSETTS.

ANOTHER COPPUS "BLUE RIBBON" PRODUCT

▲ For more details circle NED-419 H3 on enclosed inquiry slip ▲

REDUCE MAINTENANCE COSTS!
KEEP BOLTED ASSEMBLIES TIGHT
"WITH RELIANCE SPRING LOCK WASHERS"



Approved Source for AN 935 Specifications

AVAILABLE IN BRONZE, STAINLESS, K-MONEL, ALUMINUM . . . . .
SEND TODAY FOR FREE SPECIFICATION SHEET

EATON

RELIANCE DIVISION

EATON MANUFACTURING COMPANY
OFFICES AND PLANTS • MASSILLON, OHIO
SALES OFFICES:
NEW YORK • CLEVELAND • DETROIT • CHICAGO
ST. LOUIS • SAN FRANCISCO • MONTREAL

▲ For more details circle NED-420 H3 on enclosed inquiry slip ▲

UNIVERSAL DRILL BUSHINGS in a complete variety of sizes and shapes

Universal Drill Bushings are produced in a complete range of standard sizes and lengths. Prompt attention is also given to orders for special dimensions. Universal Drill Bushings are precision machined with super finish bores to reduce wear, and a blended radius to keep tool hang-up and breakage to a minimum. 100% concentricity and hardness tests insure absolute accuracy, uniform high quality, and long life. Write today for complete information.

The modern home of finer production tools 167-A

UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 5, MICHIGAN

▲ For more details circle NED-421 H3 on enclosed inquiry slip ▲

FOR LESS THAN 1/2 THE COST

...a modern water heating system

Compact GENERAL Instantaneous Water Heaters cost you far less to buy, install, and maintain. And, they can be installed in a fraction of the space required by storage tanks of equal capacity! The largest of 20 sizes measures only 21" x 84" . . . and delivers 300 gpm. Can even be installed overhead, completely out of the way. Just tap into existing live or exhaust steam lines . . . no excavating, no complicated piping. More dependable, too . . . seamless copper tube, bronze head and tube plate assure you of continuous rust-free hot water for years and years. For detailed information, write, wire, or call General Fittings Co., Dept. I, 123 Georgia Ave., Providence 5, Rhode Island.

GENERAL INSTANTANEOUS WATER HEATERS

For more details circle NED-422 H3 on enclosed inquiry slip

PROVED IN OVER 1700 INSTALLATIONS!

Production soars with "JET" handling of condensate with a

cochrane C-B CONDENSATE DRAINAGE SYSTEM

Over 1700 installations in every kind of steam process work, prove that the Cochrane "JET" principle of condensate drainage steps up production, cuts fuel costs and improves quality.

Up to 35% increase in production has been achieved. The Cochrane "JET" unit removes "insulating" layers of condensate from all types of steam processing equipment continuously and effectively. It produces faster, more efficient heat transfer; eliminates cold starts; speeds cooking, drying and curing cycles.

Improved product quality. The Cochrane "JET" unit levels out heat fluctuations—maintains uniform intense heat transfer, producing better quality product in less time.

Lower fuel and maintenance costs. The Cochrane C-B system chops fuel costs by 10% or more returning condensate to the boiler or "make-up" system without appreciable pressure or temperature drop—cuts make-up water requirements—eliminates flashing—reduces boiler room maintenance, automatically separates entrained air and corrosive gasses from returned condensate.

Write today for full information on how a Cochrane C-B High Pressure Condensate Drainage Control System can help you when used with . . .

Platen Presses	Vulcanizers	Tumblers
Jacketed Kettles	Tube Dryers	Coil Cookers
Dry Cans	Ironers	Drum Dryers
Expellers	Dry Plates	Spray Dryers
Drying Rolls	Unit Heaters	Presses
Coil Dryers	Jacketed Mixers	Digesters
Stills	Paper Machines	Heating Systems

cochrane corporation
3143 N. 17th Street, Philadelphia 32, Pa.

For more details circle NED-423 H3 on enclosed inquiry slip

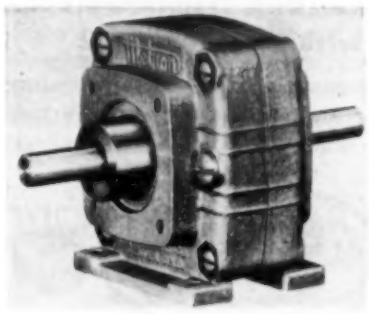
WELDING COVER PLATE
plastic type gives 1500 hours service

With a clarity equivalent to that of high quality optical glass, Long Life clear plastic welding cover plate has a service life expectancy of about 1500 hours. It is unaffected by acetone, benzene, gasoline, high octane fuels and high temperatures, is unbreakable and withstands pitting.

Double vision is practically eliminated and bending does not cause crazing. A standard size of 2 by 4 3/16-in. is available, together with a LKU 50 mm cover lens for welding goggles. Made by **Sellstrom Mfg. Co.,** 654 N. Aberdeen St., Chicago 22, Ill.

For more details circle NED-424 H3 on enclosed inquiry slip

COMPACT SPEED REDUCER
1/10-hp rating, 2-7/16 x 2⅜-in.



Measuring 2 7/16-in. high and 2⅜-in. wide, series 10 Bantam speed reducers are nominally rated at 1/10-hp. For service in chart drives, computers, oscillographs and servomechanisms, they make readily available more than 600 different ratios. They are fitted with 5/16-in. diameter in-line shafts, antifriction bearings and a splash-type oil bath. Made by **Metron Instrument Co.,** 436 Lincoln St., Denver 9, Colo.

For more details circle NED-425 H3 on enclosed inquiry slip

AIR REGULATOR
handles large compressed air volume

Manufactured in two models, each basically alike except for inlet and outlet connections, the type HAA air regulator is capable of handling a large volume of compressed air with a minimum of pressure drop. It has a capacity of 80 cfm at 100 psi line pressure. Maximum pressure that can be regulated is 135 psi and maximum line pressure is 300 psi. Unit, which measures 3 x 4½ in., should be used with a strainer or filter. Made by **DeVilbiss Co.,** 301 Phillips Ave., Toledo 1, O.

For more details circle NED-426 H3 on enclosed inquiry slip

SAFETY EQUIPMENT FOR ALL INDUSTRIES

Porcelain Enamel Signs!

- ATTRACTIVE
- PERMANENT
- ECONOMICAL

A complete line of Signs for every industrial need. Stock wordings for warnings, safe practice reminders and general plant notices . . . SPECIAL SIGNS TO ORDER.

Write for Bulletin No. 45

IPCO

IPCO *Safety Equipment for all Industries*
INDUSTRIAL PRODUCTS COMPANY
2807 NORTH FOURTH ST., PHILADELPHIA 33, PA.

For more details circle NED-427 H3 on enclosed inquiry slip

For Shear Cut Thru-Feed Disc Grinding

GARDNER abrasive discs

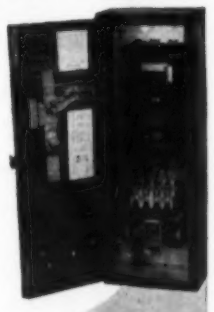
GARDNER MACHINE COMPANY
460 Gardner St., Beloit, Wisconsin

For more details circle NED-428 H3 on enclosed inquiry slip

ALLIS-CHALMERS Combination STARTERS

a magnetic starter and a safety switch in one compact unit . . .

Starter has silver-to-silver double break contacts and noncarbonizing arc chambers. Circuit breaker gives short circuit protection, serves as disconnect switch. Available in sizes 0 to 5. Starters with fusible or nonfusible disconnecting switches are available up through size 3.



A-4046

There is an Allis-Chalmers starter for every motor need. Contact your nearby A-C representative or write for selection guide 14B7733, Allis-Chalmers, Milwaukee 1, Wisconsin.

ALLIS-CHALMERS

For more details circle NED-429 H3 on enclosed inquiry slip

HOW TO SPEED Drum Handling and Save Money

Exclusive! American Drum and Barrel Cradles are designed for one-man handling.
Exclusive! American's disappearing patented loading bar adds speed and safety.
Exclusive! American's Semi-knocked-down packaged units save shipping costs and warehouse space.

Clip coupon and mail today.

THE AMERICAN PULLEY COMPANY
4294 Wissahickon Ave, Phila. 29, Pa.

Complete line of Pressed-Steel Hand Trucks • Steelite® Industrial Wheels • Drum King Hand Truck

Gentlemen:
Please send me more information on American Drum and Barrel Cradles.
Name _____
Firm Name _____
Address _____
City _____ Zone ____ State ____

For more details circle NED-430 H3 on enclosed inquiry slip

GENUINE — SIMPLE

SILVER PLATING

"ON THE JOB" WITH POWDER

Purposes of silver plating need not be explained to you of the electrical field.

The biggest problems of silver plating are its convenience, economy and thoroughness. "Cool - Amp" silver plating POWDER is the answer to these problems.

"Cool-Amp" deposits a genuine coat of silver that will not peel off and provides cool maximum conductivity for copper, brass or bronze contacts. It has been proven equal to any electroplating for bolted and stationary contacts and is far more adaptable . . . always ready for use.

"Cool-Amp" POWDER offers a quick and easy solution to heating due to oxidation, improves the continuity of electrical service and reduces maintenance.

"Cool-Amp" is completely harmless to the user and is simple to apply. It can be used by any number of people at the same time. ON THE JOB, in underground vaults and sub stations and in hard-to-get-at places. The only equipment needed is a sharp steel wire brush or abrasive cloth, clean rag and water.

Dampen a rag, dip in "Cool-Amp" and rub on surface. One pound will silver plate approximately 6000 square inches.

$13.50 PER POUND SHIPPED PRE-PAID

WRITE FOR FREE SAMPLE AND QUANTITY QUOTATIONS

GENUINE • SIMPLE SILVER PLATING

COOL-AMP

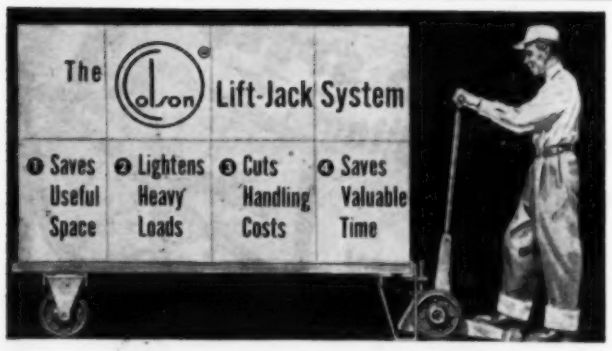
Dept. ED 8603 S. W. 17th Avenue • Portland 19, Oregon

For more details circle NED-431 H3 on enclosed inquiry slip

CADDY ARC WELDING ACCESSORY DIV.

ERICO PRODUCTS, INC. 2070 E. 61st PLACE • CLEVELAND 3, OHIO

For more details circle NED-432 H3 on enclosed inquiry slip



Through production, in and out of storage, on and off freight cars, the COLSON Lift-Jack System saves you man-hours, money and valuable space.

Many other cost-saving materials handling devices are produced for you by COLSON, including hand trucks, platform trucks, drum and barrel trucks, and precision built, roll-easy wheels and casters for every type of industrial application.

Your nearest COLSON engineer can tell you how modern materials-handling can speed up your operation and save you money. Write us or consult the yellow pages of your local phone book for the COLSON representative near you. *Write Today for new Catalog*

THE COLSON CORPORATION

ELYRIA, OHIO

CASTERS • LIFT-JACK SYSTEMS • INDUSTRIAL TRUCKS

For more details circle NED-433 H3 on enclosed inquiry slip

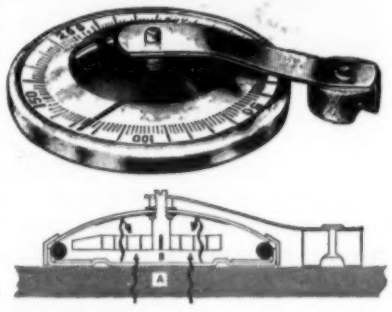
GATHERING MACHINE
office model is electrically powered

Capable of collating sets of two to eight pages at speeds as high as 29,000 sheets an hour, the Gathermatic collator is designed for the office assembling of reports, bulletins, lists and other reproduced papers. A hand lever adjustment regulates the rate of delivery from 12 to 60 sets a minute, while a foot switch stops the machine instantly if required. Pages are always visible to the operator, reducing possibility of blanks or misprints slipping through. Made by **Thomas Collators, Inc.**, Dept. M, 30 Church St., New York 7, N. Y.

For more details circle NED-434 H3 on enclosed inquiry slip

SURFACE TEMPERATURE THERMOMETER
accurate to within plus-minus 2°

Fast, accurate measurement of surface temperature of pipes, plastic dies and rubber molds, journals and bearings, electric motors and cylinder blocks is possible with this 2-in. diameter surface thermometer. Unit is accurate to within plus-minus 2°. Model 311F covers range from 75° to 375° F, and model 311C spans a 25° to 190° C range, both in 2° increments.



Temperature is indicated from back of instrument only. Highly reflective evaporated mirror on dial protects thermal element against external radiation. Instrument weighs 1 oz and is affixed to flat surfaces with silicone grease supplied with it, or with small magnetic clamp for use with ferrous surfaces. Made by **Pacific Transducer Corp.**, 11921 P. Pico Blvd., Los Angeles 64, Calif.

For more details circle NED-435 H3 on enclosed inquiry slip

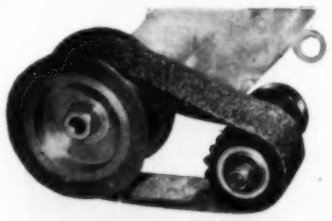
Mechanical & Hydraulic Jacks

Templeton, Kenly & Co.—34-page general catalog No. 53 on line of mechanical and hydraulic jacks, hydraulic pullers and special purpose jacks features application pictures and data, detailed drawings and specifications. Items include remote controlled hydraulic jack, foot lift jacks, ratchet lowering jacks, screw jacks and variety of such special units as mine roof jacks, trench braces, tie removers and replacers.

For more details circle NED-436 H3 on enclosed inquiry slip

PORTABLE GRINDING...New "Port-A-Belt" Attachments
designed to reach additional hard-to-get-at spots

Source: THE CARBORUNDUM COMPANY
Niagara Falls, New York



Two new models of the versatile "Port-A-Belt" Grinding Attachment by CARBORUNDUM now make it possible to grind additional surfaces normally difficult to reach with portable equipment.

The two new models mount the "61" Contact Wheel on the extended arm, and the idler pulley on the tool spindle. Thus they complement the present two models where the "61" serrated-surface wheel is on the tool shaft. Equip your shop with all four efficient, low-cost attachments—enjoy the unique versatility and economy of belt grinding on such jobs as small-radius die and mold areas, and all kinds of contours, welds, edges, etc.

All four models fit nearly all standard make horizontal portable grinders—air or electric. They offer the high cutting rate and long belt life made possible by the serrated surface of the "61" Contact Wheel. They are light, easy to handle. They do not bounce or chatter.

Call your CARBORUNDUM distributor for full information—or write us at Dept. NED 82-35.

"Carborundum" and "Port-A-Belt" are trademarks of The Carborundum Company, Niagara Falls, New York

For more details circle NED-437 H3 on enclosed inquiry slip

THE ELECTRIC CONTROLLER & MFG. CO.

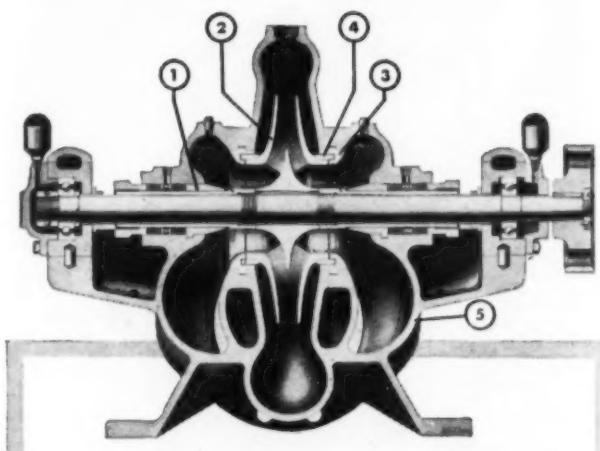
2698 East 79th Street • Cleveland 4, Ohio

For more details circle NED-438 H3 on enclosed inquiry slip

DE LAVAL

SINGLE STAGE CENTRIFUGAL PUMPS

for dependable service



1 Shaft Sleeves are screwed on, to abut the impeller and make a water-tight joint. Sleeve expands freely and independently of shaft when temperatures change. There is no tendency to buckle.

2 Impeller hydraulically balanced, finished on all surfaces.

3 Labyrinth Wearing Rings held accurately in machined grooves in both case and cover.

4 Impeller Wearing Rings threaded on impeller, opposite to rotation.

5 Pump Case horizontally split; machined to limit gages.

You can count on the performance of the De Laval Single Stage Centrifugal Pumps because they are precision-made to high manufacturing standards and incorporate many quality design features.

They operate at high or low speeds, at high or low heads . . . with maximum efficiency.

For example, De Laval G, I and K Single Stage Double Suction Pumps have a capacity range of 175 gpm to 6,000 gpm and heads to 300 feet. They are available in sizes ranging from 4" suction and 3" discharge to 14" suction and 12" discharge. Write for Bulletin 1002.

De Laval also furnishes larger centrifugals for capacities up to 70,000 gpm. Bulletin 83-29R sent on request.

DE LAVAL *Centrifugal Pumps*

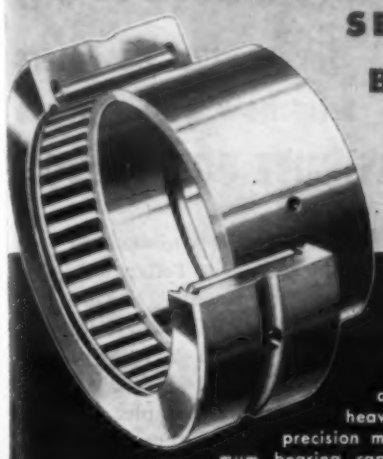
DE LAVAL STEAM TURBINE COMPANY

808 Nottingham Way, Trenton 2, New Jersey

For more details circle NED-439 H3 on enclosed inquiry slip

Save the cost of bearing failures with

McGILL MULTIROL® SE SERIES BEARINGS



Millions of Multirol SE Series full type roller bearings are being used to carry heavier loads longer where precision machinery requires maximum bearing capacity in limited radial space. Your bearing applications can be improved with such Multirol design advantages as solid roller retaining end shoulders, simplified lubrication, with built in lubrication reservoirs.

Send for McGill Catalog No. 52

McGILL® precision bearings

McGILL MANUFACTURING CO., INC. 101 N. LAFAYETTE ST. VALPARAISO, INDIANA

▲ For more details circle NED-441 H3 on enclosed inquiry slip ▲

G. E. announces . . .

NEW RIGID CONDUIT

NEW G-E WHITE

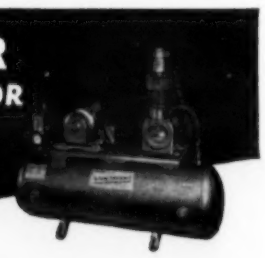
Now! A brand-new G-E WHITE rigid steel conduit, featuring easy bending, easy wire-pulling, and improved corrosion protection. A rigidly tested zinc-coating process, "metallizing," bonds a controlled, uniform coating of pure zinc to the conduit, threads and all, without hardening it. New G-E WHITE is lined with a corrosion-resistant coating containing an anti-friction agent for easier wire-pulling. Try it on your next job. Section C29-861, Construction Materials Division, General Electric Company, Bridgeport 2, Conn.

You can put your confidence in—

GENERAL ELECTRIC

▲ For more details circle NED-441 H3 on enclosed inquiry slip ▲

IF YOU USE AIR IN YOUR PRODUCT OR IN YOUR PLANT



Look to

Kellogg-American

FOR COMPRESSOR PUMPS

Soundly designed, highly efficient. Precision built to deliver more *free air per hp.* Standard units available for pressures up to 200 p.s.i. Single or two stage, one or two cylinders.

FOR COMPLETE AIR COMPRESSORS

Known over 40 years for their efficiency, long life, quiet, economical operation. Available in sizes from ¼ hp through 10 hp. Portable or stationary, skid or tank-mounted, electric motor or gas engine-driven models.

Write for Bulletin K-307-N

AMERICAN Brake Shoe COMPANY

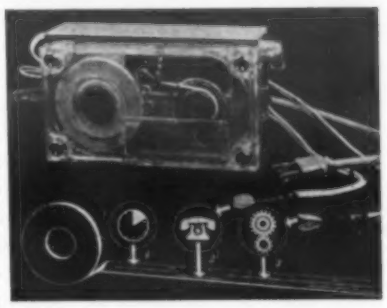
KELLOGG-DIVISION ROCHESTER 9, N. Y.

Kellogg-American

AIR COMPRESSORS PAINT SPRAY EQUIPMENT

▲ For more details circle NED-442 H3 on enclosed inquiry slip ▲

UNIT & TIME RECORDER has electrosensitive recording tape for variety of operations



Collecting information concerning the number of actions occurring over a time period, this recorder prints and stores two separate data traces and a timing trace on magazines of electrosensitive tape. It plugs into any 110-v ac outlet, and switches attach to the phenomena to be monitored. Illustration shows (1) timing intervals recorded on the first channel, (2) normally-closed switch recording when telephone receiver is raised and (3) normally-open switch recording when machine is operating.

Sensitivity is such that actions separated by as little as 1/6-second are positively recorded, and tape speed can be varied so that a magazine will run from a few hours to eight days, depending on the detail desired in the recording. Operation is unaffected by temperature or moisture extremes. Made by **Alden Electronic & Impulse Recording Equipment Co.**, P. O. Box 125N, Westboro, Mass.

▲ For more details circle NED-443 H3 on enclosed inquiry slip ▲

WIRE PAIL HOLDER converts paint tub to bucket

This wire paint tub holder is available in two sizes, with ring diameters of 7⅜ and 8⅝-in. It consists of a wire ring with two eyes welded to either side and a bail handle attached. This is made from 11-gage galvanized wire. Unit instantly converts a paint tub into a handy carrying and dispensing pail. Made by **Worcester Wire Novelty Co.**, Dept. CMR, 2637 Boston St., Baltimore 24, Md.

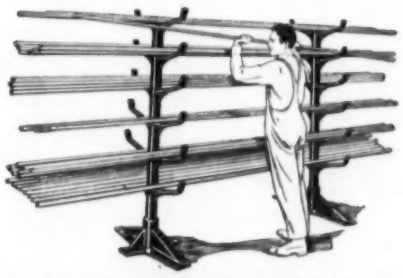
▲ For more details circle NED-444 H3 on enclosed inquiry slip ▲

Materials Handling Equipment

Allied Mfg. & Sales Co.—36-page illustrated data and catalog file covers such items as lift trucks, cranes, hoists, clamps, slings and winches. It includes two-wheel hydraulic lift hand trucks, fork lift stacker hand trucks, hydraulic material elevators and barrel and tote pan dumpers. Complete ordering information and specifications are furnished.

▲ For more details circle NED-445 H3 on enclosed inquiry slip ▲

for EFFICIENT HANDLING and ORDERLY STORAGE



You save time, both in storing and in issuing, when you use Brown Sectional Racks. Open sides speed handling. Complete visibility permits quick selection to save waiting mechanics time.

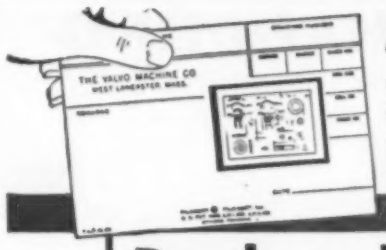
Maximum flexibility in arrangement is possible because each Brown Rack is independent and self-contained, need not be bolted to floor. Easily relocated. Systemized storage with Brown Racks promotes good housekeeping, cleanliness.

All iron and steel construction, can't burn, bend, sag or warp. Never wear out.

Get these values now! Write for complete specifications and prices on wide range of models and sizes. Brown Engineering Co. 129 N. Third St., Reading, Pa.

BROWN QUICK-SERVE RACKS

▲ For more details circle NED-446 H3 on enclosed inquiry slip ▲



A 24"x36" DRAWING

Ready to be filed!

Need more vault space in your engineering department? . . . Need a faster way to find and use your engineering drawings? Filmsort® will give you *both!*

Filmsort — individualized microfilm in file cards — combines the reduced microfilm image of a drawing with any popular card filing system. Filmsort condenses your drawings; makes them easier to file and find — in a fraction of their present space. Don't wait! Write — right now — for the money-saving solution of your drawing, specification or data filing problem.

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It's in the cards

FILMSORT INC. DEPT. I, PEARL RIVER NEW YORK

▲ For more details circle NED-447 H3 on enclosed inquiry slip ▲

B.F.Goodrich

TW TIRE AND WHEEL ANALYSIS solves your industrial tire problems, saves you as much as 50%

● What's your industrial tire problem? Too much power-consumption or rolling resistance? Not enough traction? Cushioning or flotation? Or is it cutting, tread chipping or oil damage? No matter what it is, there's an industrial tire designed to solve it, one that may give you up to *twice as much service* as any other tire.

To help you specify this tire, B. F. Goodrich has developed the Tire and Wheel Analysis Plan. Without obligation, a trained BFG man will study your materials handling operations. He'll recommend the right type tires for you to use — solid, semi-pneumatic or pneumatic. He'll tell you what tread design is best—smooth, directional, non-directional—and if a special tread compound should be used.

Follow the TW Analysis man's advice and you can save as much as 50% on industrial tire costs. And his maintenance tips can cut your bills up to 20%. His advice is impartial, for B. F. Goodrich makes, and BFG retailers sell, a complete line of industrial tires.

To find out more about this free B. F. Goodrich Tire and Wheel Analysis Plan, mail the coupon or call your BFG retailer. A special TW Analysis Plan is available for manufacturers of industrial handling equipment.

Specify B. F. Goodrich tires when ordering new equipment

The B. F. Goodrich Co.
Department TW-156, Akron 18, Ohio

Please send me:

☐ *Additional information* on your new Tire and Wheel Analysis Plan

☐ A free copy of your "Industrial Tire Guidebook".

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Company _____

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RESEARCH KEEPS B.F.Goodrich FIRST IN RUBBER

▲ For more details circle NED-448 H3 on enclosed inquiry slip ▲

REDUCE HANDLING

of Tools, Parts and Materials

Because Stackbins® are portable containers — not fixtures — tools, parts and materials can be carried to departments, from machine to machine, or held in stockrooms without being transferred from one container to another. Stored in Stackracks®, any Stackbin is instantly accessible when its contents are needed — without disturbing any other bin. *Stackbins*—individual hopper-fronted stacking bins, slide like drawers in *Stackracks* — individual units which lock together to form racks of any size, shape or capacity.

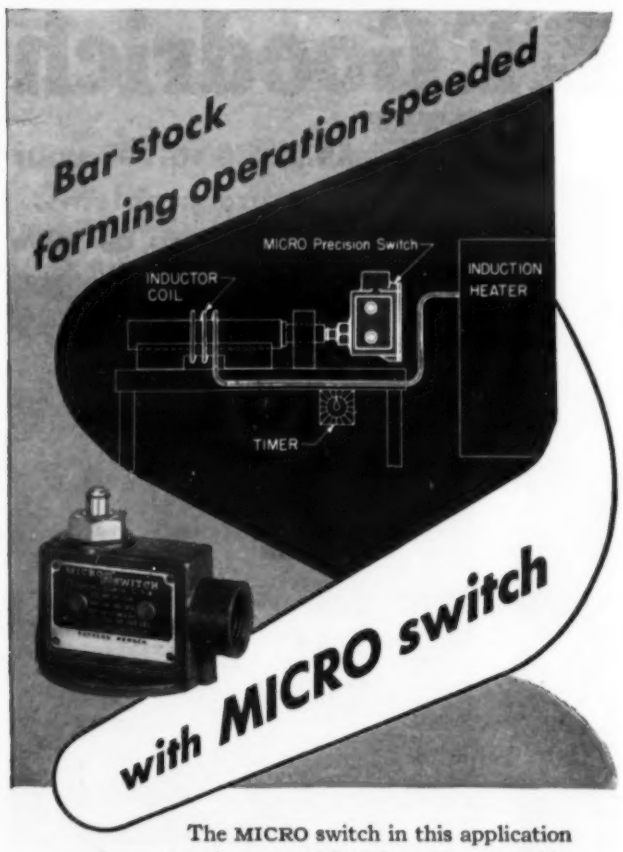
STACKBINS IN STACKRACKS

Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa

Write Stackbin Corp., 1081 Main St., Pawtucket, R. I.

STACKBIN SYSTEM
"Stacked and Still Accessible"

▲ For more details circle **NED-449 H3** on enclosed inquiry slip ▲



The MICRO switch in this application performs two important functions in connection with the induction heating of bar stock to form harrow teeth. It controls both heating and bar position.

Operator slides the bar down a grooved surface through a back stop until it contacts the switch plunger. This assures the proper position of the bar in relation to the induction heating coils. The switch then actuates a timer which starts the heating cycle. One man thus performs both the heating and pulling operations with utmost efficiency.

In thousands of plants, all over the country, engineers and maintenance men are using small, dependable, ruggedly-housed and easily-mounted MICRO switches to make their equipment safer, more automatic and more productive. Complete stocks of these versatile switches are readily available to plant operators from authorized MICRO distributors in 142 cities. Look under "Switches, Electric" in your classified telephone book.

Ask us to send you MICRO TIPS, *a live publication packed with practical ideas to speed plant production.*

MICRO
MAKERS OF PRECISION SWITCHES
FREEPORT, ILLINOIS

A DIVISION OF
MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

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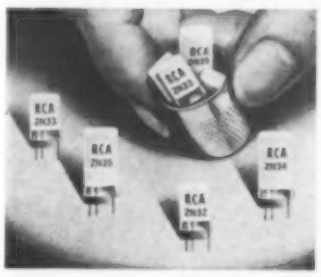
TRANSISTORS

point-contact and junction types



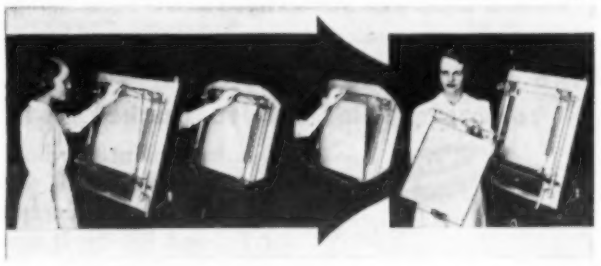
First of four types of germanium transistors is type 2N32 point-contact type for use in pulse or switching applications where an operating frequency for voltage-gain cutoff of 0.9-mc, current-gain cutoff of 2.7 mc and a high current amplification are major design considerations. Type 2N33 point-contact transistor is for use in oscillator service at frequencies up to 50 mc. Types 2N34 and 2N35 are junction transistors of the p-n-p and n-p-n type, respectively, for low power audio frequency applications. Each of four types has a base with three small pins in line. Made by **Radio Corp. of America,** RCA Tube Dept., 415 S. Fifth St., Harrison, N. J.

▲ For more details circle **NED-451 H3** on enclosed inquiry slip ▲

X-RAY FILM HANGER

with semiautomatic hanger loader

Fast and safe film unloading, accurate alignment of film with respect to the hanger, absence of finger marking of the film and reduced possibility of hanger



entanglement and damage are features of this x-ray film hanger. Design compensates for film expansion in three directions. A simplified film punching-loading board is employed. Unloading is by pressing one of the springs and the film drops free. Holes punched in the corners of the film are removed when the corners are trimmed. Hangers can be used in either hand processing tanks or in automatic machine processing. Both hangers and loading boards are available in commonly used sizes. Made by **Hard & Co.,** 201 Main St., Ann Arbor, Mich.

▲ For more details circle **NED-452 H3** on enclosed inquiry slip ▲

Lubricated Plug Valves

Ohio Injector Co.—Line of steel and semisteel lubricated plug valves designed for various working pressures from 175 to 800 psi, plus large safety factor, is subject of 28-page booklet No. 180. Sectional views are shown, and dimension tables are keyed to sections and appropriate valve accessories, which include remote control devices, wrenches, locking devices, adaptors, socket wrenches and extensions.

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AIR CYLINDER WITH CHOICE OF BUILT-IN VALVES

The Bellows Air Motor—the only air cylinder with *built-in* valve and operating controls — now offers a choice of six separate valving arrangements. Now the engineer can choose the method of valving he prefers and still have all the advantages that integral construction means: jet-quick action, compactness, sure-fire control, simple installation.

Learn more about this newest development in the Bellows Air Motor. Write for your copy of Bulletin CL-50, just off the press. Address Dept. NED-853,

The Bellows Co.
ESTABLISHED 1911
AKRON 9, OHIO 701A

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These strong, durable, grainless all-wood hardboard panels have 28 distinct advantages—now used in furniture, toys, autos, trains, hundreds of other items. Easy to fabricate. Take beautiful finishes. 44 types and thicknesses to choose from.

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MASONITE® CORPORATION
DEPT. NED-8, BOX 777, CHICAGO 90, ILL.

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In Any Shape or Form

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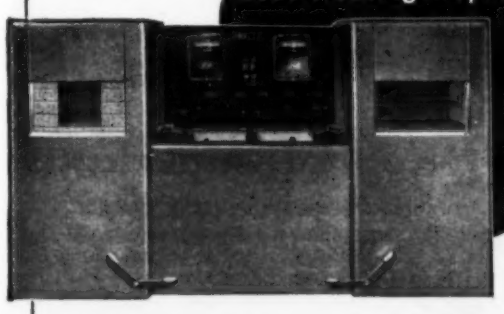
Waltz gives you a complete heat-treating department in a single unit



Waltz CH gas fired heat-treating unit gives you all the advantages of a full scale heat-treating department. Designed for heat-treating all types of oil or water hardening steel . . . for heating, quenching and drawing . . . for stress relieving, normalizing and annealing, with controlled atmospheres.

Features include:

- *Heating Furnace with range of 1000° to 2400° F. automatically controlled (12" wide x 10" high x 18" deep).*
- *Tempering or Drawing Oven is recirculating type. Work is constantly bathed with evenly distributed high velocity and held to constant temperature by automatic control. Alloy steel lined with perforated shelf, has range of 250° to 1100° F. (21" wide x 10" high x 18" deep).*
- *Furnace and Oven doors equipped with foot treadles.*
- *Two Quench Tanks for oil and water. By means of double wall construction, oil tank is entirely surrounded by water for cooling oil, thus producing more uniform quenching.*
- *Automatic electronic type controls.*
- *Shipped ready to install by simply connecting gas and electric power line.*

FREE Engineering bulletins —Waltz Heat-treating Furnace—write:

WALTZ FURNACE COMPANY
Dept. B, Symmes St., Cincinnati, O.

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DIVISION OF ST. PAUL FOUNDRY & MFG. CO.
18-5E FAIRFIELD, IOWA

For more details circle NED-458 H3 on enclosed inquiry slip

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If you want prompt and authentic information on a Magnethermic Heater, let us know what size billet; for what use; and, desired production rate. Your inquiry will receive prompt attention.

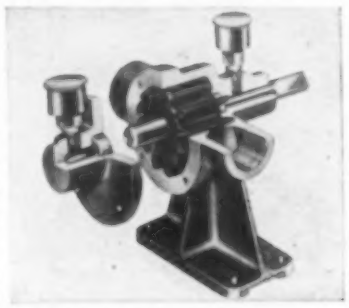
THIS BOOKLET MAY END A LOT OF YOUR HEATING PROBLEMS

The bulletin has sizes, styles, descriptions and other useful information. A copy will be mailed promptly upon request.

60-CYCLE
MAGNETHERMIC corporation
3990 SIMON ROAD YOUNGSTOWN 7, OHIO
INDUCTION HEATING

For more details circle NED-459 H3 on enclosed inquiry slip

GENERAL PURPOSE PUMP available in three port sizes



Pumping fuel oil, kerosene and dirty water with equal facility, this general purpose pump has a 12-vane rubber impeller which provides good priming and high output. Models with ½, ¾ and 1-in. port sizes are available, all having bronze cases, stainless steel shafts, replaceable unit-type seals and straight-through ports. Sharp lateral wiping edges on each impeller vane reduce friction and drag, and the large number of vanes gives an even, continuous flow of liquid. Made by **Hypro Engineering, Inc.**, Dept. NED, 404 N. Washington Ave., Minneapolis 1, Minn.

For more details circle NED-460 H3 on enclosed inquiry slip

CHAMFER MICROMETER GAGE computes end diameter and depth

This direct-reading chamfer micrometer gage is designed to read end diameters of chamfers up to 1 in. from 0 to 90 degrees, including angle maximum

chamfer. Depth of chamfer in hole is also easily computed. Master checkbar with known indicated end diameter and chamfer is furnished with each unit for checking calibrations of micrometer. Each gage is packaged in felt-lined varnished wood case. Made by **Acme Industrial Co.**, Dept. NED, 200 N. Laflin St., Chicago 7, Ill.

For more details circle NED-461 H3 on enclosed inquiry slip

Injection Molding Machine

Lewis Welding & Engineering Corp.—In eight illustrated pages, bulletin 102 gives a detailed description of the model 6 plastics injection molding machine. This machine has an automatic molding cycle, and a typical performance figure is the molding of 6.8-oz shots repeatedly at the rate of five every 2 minutes. All operations are timer controlled. Bulletin contains full specifications, floor plan, die drawings, etc.

For more details circle NED-462 H3 on enclosed inquiry slip

JOHNSON BAND SAWS

SPECIFICATIONS — MODEL J
BOTH WET AND DRY MODELS

Capacity—10" rounds, 18" flats.
Motor—½ H.P. Ball Bearing any voltage available, single or polyphase. (¾ H.P. on wet machine).
Wheel Diameters—16".
Floor Space—66" x 31".
Bed—11" wide, 44" long, 6" deep, 24" high.
Overall Height—(Closed)—39".
Blade Length—11'5" x ¾" x .032". All Standard blades of these specifications can be used.
Weight—Approximately 750 lbs. Crated 800 lbs. Boxed for export 875 lbs.
Speeds—35, 90, 130, 190 feet per minute.
Casters—Optional at slight extra cost.

MODEL B, 5" x 10" CAPACITY, ALSO AVAILABLE
WRITE FOR DETAILS

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ALBION, MICHIGAN

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Why take chances with "any old packing" and run the risk of shutdowns and the expense of frequent replacements?

This handy new "packing selector" tells you at a glance the *right* Johns-Manville packing or gasket for practically any power plant application. Its recommendations are based on the experience of J-M engineers in solving packing problems and lowering packing costs in thousands of plants.

For your free copy, write Johns-Manville, Box 60, New York 16, N. Y. Ask for "Packings for the Power Plant."

Johns-Manville PACKINGS & GASKETS

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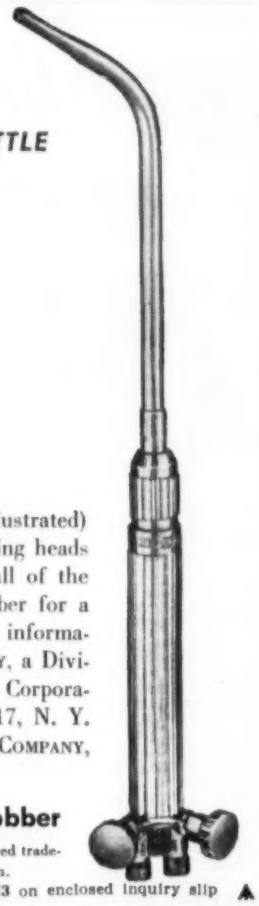
HERE'S WHY PUROX Trade Mark BLOWPIPES COST SO LITTLE TO USE AND MAINTAIN



SELF-SEATING VALVES
Reseat scored valves when turned tight.

RUGGED HANDLE ASSEMBLY
Built for long, trouble-free service.

SLIP-FIT "O" RINGS
Perfect gas seals every time.

MIXER IN EACH HEAD
Resists backfires, eliminates burnouts.

SWAGED, PURE COPPER TIPS
Heads snap in handle. No wrench needed.

The Purox W-202 blowpipe (illustrated) is available with 13 standard welding heads and 3 multiflame heating heads, all of the snap-in type. Ask your LINDE jobber for a demonstration or write for further information. LINDE AIR PRODUCTS COMPANY, a Division of Union Carbide and Carbon Corporation, 30 E. 42nd St., New York 17, N. Y. In Canada: DOMINION OXYGEN COMPANY, LIMITED, Toronto.

get it from your LINDE jobber

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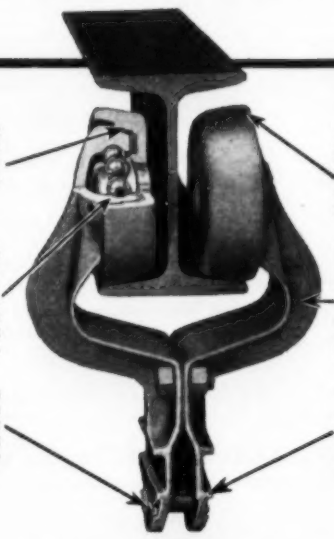
For more details circle NED-465 H3 on enclosed inquiry slip

Your conveyor dollars go farther with LINK-BELT trolleys



LINK-BELT

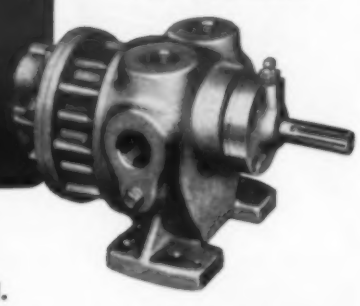
LINK-BELT COMPANY: Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8. 12,38"

Write for Folder 2241-B.

For more details circle NED-466 H3 on enclosed inquiry slip

ROPER SERIES F

WITH 4-PORT DESIGN FOR 8 OPTIONAL ARRANGEMENTS



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Pumps that give *positive power* for hydraulic circuits. Installation time and design problems reduced because 4-port feature offers eight optional piping arrangements (4 for CW and 4 for CCW rotation). Supplied with or without relief valve . . . with packed box or mechanical seal.

Mechanical Seal
Ideal where repacking is not convenient.

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GEO. D. ROPER CORP.
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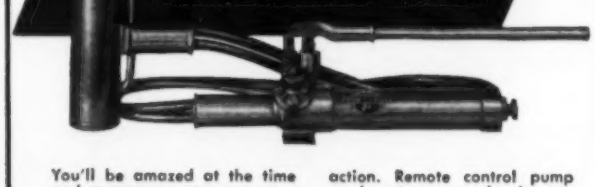
ROPER Rotary Pumps

For more details circle NED-467 H3 on enclosed inquiry slip

SPEED UP ★ PRODUCTION ★ MATERIALS HANDLING ★ MAINTENANCE

WITH A HEIN-WERNER 20 TON PUSH and PULL HYDRAULIC JACK



You'll be amazed at the time and manpower you can save on tough lifting, moving, pressing, ejecting, clamping, or straightening jobs with a Hein-Werner J-20 Hydraulic Jack.

The J-20 can be carried anywhere in the plant . . . set up in seconds . . . easily operated by one man. It will push up to 20 tons or pull 13½ tons. You merely turn a valve from right to left to change the action. Remote control pump works at any angle, in any position, without becoming airbound. Safety valves prevent overloading. Varied attachments are available to adapt the jack perfectly to any type job. Other Hein-Werner models of 4 and 10 ton capacities are also available. See your industrial supply distributor or write us.

HEIN-WERNER CORPORATION
Waukesha, Wisc.

Hein-Werner HYDRAULIC JACKS

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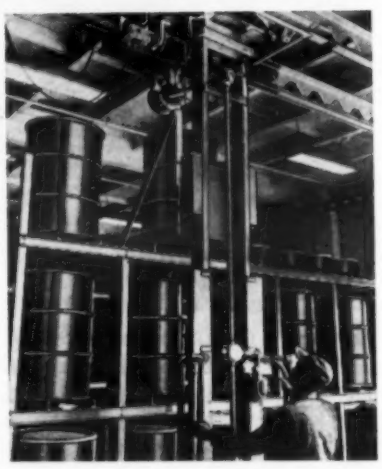
For more details circle NED-469 H3 on enclosed inquiry slip

PORTABLE TAPE RECORDER
compact battery-operated unit

Cub Corder is a portable tape recorder equipped for recording, playback, erasing, monitoring and battery recharging, all housed in one compact unit. It weighs less than 13 lb and records for 2 hr or 20,000 words before its storage battery needs recharging. Push-button microphone can be used for recording, playback and to start and stop the unit, making possible one-hand operation. When tape is fully recorded, and the recording is to be preserved, the operator reverses the reels on the spindles to make available another hour of recording time. Recharging is by plugging into an automobile cigarette lighter outlet or from an accessory charger which operates on 115-230-v current. Tape is of conventional size and can be played back over most tape recorders. Jack is incorporated for headphones. Made by **Ectro, Inc.**, 426 S. Sandusky St., Delaware 1, O.

For more details circle NED-470 H3 on enclosed inquiry slip

STACKER CRANE
fork lift overhead suspension type



Handling and stacking such items as drums, dies, motors, chemicals and paints, Trambeam stacker crane combines the functions of fork lifts and overhead crane suspension. The mast and attached fork lifts rotate through 360 degrees, and require only 1 ft clearance in addition to load width. Lifting power is supplied by a double drum hoist. Crane motion can be hand-powered or motor-driven and controlled from a push-button panel on the mast. Made by **Whiting Corp.**, S. Lathrop Ave., Harvey, Ill.

For more details circle NED-471 H3 on enclosed inquiry slip

Corrosion Resistant Cement

Delrac Corp.—Resiment, a furane resin cement available in powder and liquid form for mixing at time of use, is subject of this 4-page bulletin. It has very low porosity, high compressive and tensile strength and good resistance to acids, alkalies and solvents. Use is as mortar for acidproof masonry in tank linings, floors, towers and similar installations.

For more details circle NED-472 H3 on enclosed inquiry slip

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3 SIZES

for OVER-UNDER WEIGHING with TOLEDO SPEEDWEIGH®

Here's *new speed with accuracy* for you in check weighing, packaging, many other operations today . . . 3 sizes —to 5 lb., to 20 lb., to 50 lb.! Shadowfree wide-angle reading . . . accurate to 1/64 of an ounce . . . new improved knife-edge check link system . . . *exclusive* "coined" bearings for greater accuracy, longer life . . . stainless steel beam . . . enclosed levers in one-piece housing . . . choice of platters and scoops . . . many more *plus* features! Write for bulletin 1416. Toledo Scale Company, Toledo 1, Ohio.

TOLEDO® Headquarters for SCALES

For more details circle NED-473 H3 on enclosed inquiry slip

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increase operating efficiency!
of . . . Vacuum pumps

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DRI-PURE is easy to install—can be added up to one or more vacuum pumps depending on the op
Quickly pays for itself in oil savings alone
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Honan-Crane Co., 405 We
a subsidiary of . . . Houdaille-Hers

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a spectacular performer in the fine trolley field

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PACIFIC COAST DIV. *Mathews Conveyer Co. West Coast, San Carlos*
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Users report

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FOR YOUR CONVENIENCE

UNION METAL
Material Handling Equipment

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Keeps oil clean and dry. Enables pump to provide a high vacuum *without oil change* and eliminates pump "drying out" maintenance!

● **Eliminates changing or discarding of oil; allows maximum pump operating efficiency**

Increases production due to less downtime. Actually provides *2-way protection*—filtering out contaminants as it separates water!

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In Canada: E. W. Playford, Ltd., Montreal 28; W. E. Micklethwaite, Toronto 18

...a Co., 405 Wabash Avenue, Lebanon, Indiana

...ioud...e-Hershey Corp.

...rcle NE...74 H3 on enclosed inquiry slip ▲

...rcle NE...75 H3 on enclosed inquiry slip ▲

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Users report production increases from 22.6 to 52.8%

LIKEWISE, in a typical scrap handling operation, the cost of ...ading a carload of scrap was reduced from $138.55 to $6... *Ask for Catalog No. 83.* Write to The Union Metal Manufacturing Co., Canton 5, Ohio.

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☐ **RUSH CATALOG 83**

YOUR NAME _____

COMPANY NAME _____

ADDRESS _____

CITY _____ *STATE* _____

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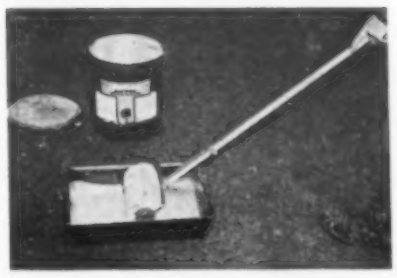
PAINT ROLLERS
heavy-duty industrial types

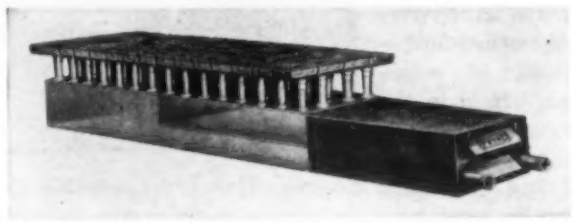


Featuring fabric covers which carry heavy paint loads, Long Boy and Twin Boy paint rollers are designed for heavy-duty industrial applications. Long Boy uses any length pole or handle up to 1½-in. diameter, and has nylon bearings and a 9-in. long removable cover of electrified lambswool over a phenolic laminated core. Twin-boy is a combination long and short reach maintenance type roller. It has worm gear clamp and extension handle for use in either high or low areas and is available in both 7 and 9-in. roller lengths with a Dynel changeable cover. Both models will apply a wide variety of finishes to many surfaces. Made by the **Wooster Brush Co.,** 601 Madison Ave., Wooster, O.

▲ For more details circle **NED-477 H3** on enclosed inquiry slip ▲

GAS BURNERS
inputs range up to 11,520,000 Btu

Series of multiple section, upshot gas burners offered in stock sizes from 450,000 to 11,520,000 Btu input are easily installed through ash pit door. Individual



Venturi mixing tubes for each burner head assure uniform mixture to all parts of the burning area. Primary air entrainment is high, and adjustment is provided for various types of fuel gas. Heat is transferred immediately to furnace or boiler, and response to demand for heat is instantaneous. Metal plate set flush with burner heads prevents heat from reaching boiler base, reducing boiler room temperature. Head sections are controlled by independent manual or automatic valves. Made by **Petro,** 3263 W. 106th St., Cleveland 11, O.

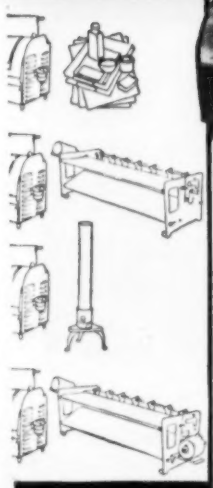
▲ For more details circle **NED-478 H3** on enclosed inquiry slip ▲

Sintered Metal Parts

United States Graphite Co.—Information on Gramix sintered metal parts, produced in a wide variety of ferrous and nonferrous metal powders, is contained in 40-page illustrated engineering handbook G-53. Methods of manufacture, properties, typical applications and other data are included.

▲ For more details circle **NED-479 H3** on enclosed inquiry slip ▲

AMAZING! the Time and Money Saved WITH *Spee-Dee* WHITEPRINT OUTFITS



Make Exact Duplicates in as little as One Minute at less than 2c sq. ft.

Inexpensive and simplest of all print making equipment! Thousands in daily use. Enables anyone to make accurate, positive whiteprints from translucent originals. Saves up to 80% of commercial blueprint costs—quickly pays for itself! Makes photocopies, too. Just plug in. Uses diazo (moist or ammonia dry) process. Complete portable *Spee-Dee* outfits in 12" x 18", 18" x 24" and 24" x 36" models. Prices start at $55.00. Also a full line of 42" width capacity volume production whiteprinters at moderate prices.

10 DAY FREE TRIAL

Send today for Free Spee-Dee Brochure

PECK & HARVEY

Mfrs. of Whiteprint, Blueprint & Photocopy Equipment

5438 NORTH WESTERN AVE., CHICAGO 45, ILLINOIS

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There are lots of ways to Humidify your Plant

. . . but these companies use Armstrong Steam Humidifiers

● ARMSTRONG HUMIDIFIERS introduce clean dry steam directly into the atmosphere—automatically increase humidity to keep it within 1% or 2% of the desired level. They are easily connected to existing steam and electrical or air systems, cost from a few pennies to perhaps $1.00 per day to operate depending on size of unit. A unit capable of supplying 60 lbs. of moisture per hour lists at only $182.25 complete with control.

Why delay? *SEND FOR BULLETIN 1774* giving complete details and prices.

Partial List of Users:
Remington Arms Corp.
Dunlop Tire & Rubber Corp.
General Cable Co.
Atlas Powder Co.
General Electric Co.
Lord Manufacturing Co.
U. S. Rubber Co.
Morton Salt Co.
Brown Shoe Co.
Albany Felt Co.
Rway Furniture Co.
Baring Press

ARMSTRONG MACHINE WORKS

819 Maple Street, Three Rivers, Michigan

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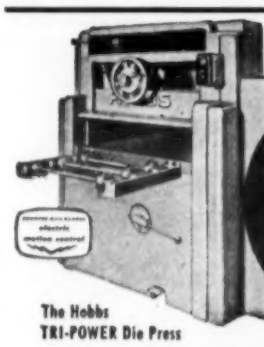


Use this die press for **Faster Die-Cutting** OF PAPER, SOFT PLASTICS, FABRICS, SYNTHETICS, ETC.

The Hobbs TRI-POWER Die Press

The versatile Tri-Power die press can help solve many of your die-cutting problems!

Designed primarily for cutting multiple layers of soft, flexible materials, it is exceptionally fast and easy to operate. Exclusive electronic controls provide complete safety for operator, machine and die. Capacity of press is 15 to 20 tons. Standard cutting speed is 16 strokes per minute. Other speeds can be supplied to meet special requirements. Rugged construction and simple electronic control center assure long life.

Investigate now the ways this machine can increase die-cutting production and efficiency in your plant!

WRITE FOR DESCRIPTIVE CIRCULAR! *For complete technical information, send for our fully descriptive Tri-Power circular.*

HOBBS MANUFACTURING CO.
40 SALISBURY ST., WORCESTER 5, MASS.
EST. 1882

Producers of Modern Machinery for Modern Industry

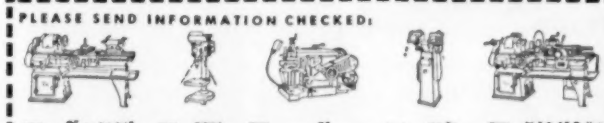
Jacques Hand and Power Shears, Slitters and Rewinders, Hobbs Autotronic and Tri-Power Die Presses, Paper Box Machinery and Touch-O-Matic Industrial Cutters.

▲ For more details circle **NED-482 H3** on enclosed inquiry slip ▲

SOUTH BEND 13" LATHE for Accurate, Low-Cost Machining

Look over the South Bend 13" lathe. The reason for its popularity is evident, for where a variety of precision parts is to be machined the 13" is at its best. This quality-built lathe combines easy and accurate operation with quick job change-over. Write for complete details.

PLEASE SEND INFORMATION CHECKED:



☐ 9" to 16-24" LATHES ☐ DRILL PRESSES ☐ 7" BENCH SHAPERS ☐ TOOL GRINDERS ☐ 5/8" & 1" Collet TURRET LATHES

Name _____ Company _____

Street _____ City & State _____

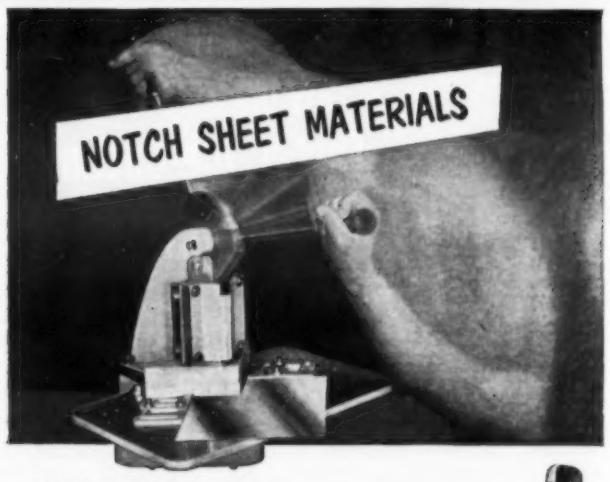
SOUTH BEND LATHE • South Bend 22, Indiana

▲ For more details circle **NED-483 H3** on enclosed inquiry slip ▲

metal, plastic, wood, rubber or leather products, there's a specific Jewel Brand Abrasive Belt made to help you do the job better . . . faster . . . and at a lower cost. Let an experienced Jewel Brand Abrasive Engineer help you select the *right* one. Write today for complete details. Abrasive Products, Inc., 525 Pearl St., South Braintree 85, Mass.

Jewel Brand COATED Abrasives

For more details circle NED-484 H3 on enclosed inquiry slip



Quickly, Easily with a

DI-ACRO* NOTCHER

Speed up notching operations, eliminate the need for heavy presses and dies. A 6"x6" notch is made in 16 gauge material in one operation. Also perform many shearing jobs.

NEW DI-ACRO POWER NOTCHER

Especially designed for operations where a high rate of production must be maintained. Motor driven flywheel and all moving parts housed in welded steel cabinet.

WANT MORE INFORMATION?

Send for 32-Page Catalog

*pronounced DIE-ACK-RO

Creators of "DIE-LESS DUPLICATING"

di-acro PRECISION METALWORKING MACHINES

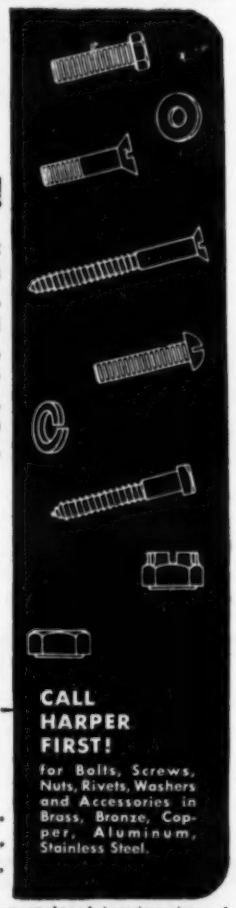
O'NEIL-IRWIN MANUFACTURING CO.
354 8th Avenue, Lake City, Minn.

For more details circle NED-485 H3 on enclosed inquiry slip

HARPER

Specialist in *all* Non-Corrosive Fastenings!

Call Harper *first!* America's largest producer of non-ferrous and stainless steel fastenings—specializing in bolts, screws, nuts, rivets, washers and accessories in brass, bronze, copper, aluminum, Monel, stainless steel—to solve your problems in corrosion, heat, abrasion and stress. Over 7,000 items stocked by warehouses and distributors from coast to coast.



FREE—*this 56-page Harper Price List and Stock Book.*

HARPER
EVERLASTING FASTENINGS

The H. M. Harper Company
8212 Lehigh Ave.,
Morton Grove, Ill.
Rush Harper Price List and Stock Book.
Name.....
Address.....
City.....State.....

CALL HARPER FIRST!

for Bolts, Screws, Nuts, Rivets, Washers and Accessories in Brass, Bronze, Copper, Aluminum, Stainless Steel.

For more details circle NED-486 H3 on enclosed inquiry slip

FORK LIFT TRUCK

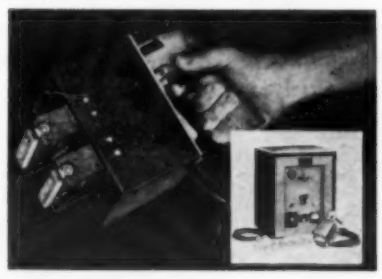
68, 80 and 100-in. lift heights

Made in three sizes with lifting heights of 68, 80 and 100 in., this portable lift truck has a lift rating of 1250 lb. Hydraulic system is powered by an automotive type battery and is equipped with a built-in charger with automatic cut-off and trickle charge. Truck has a switch to cut off power at maximum height and to prevent jarring load and damage to hydraulic system. Hand-operated brake prevents movement when loading and unloading and functions when traveling on grades. Of the fork lift type, the truck can be equipped with snap-on platform. Made by **Safeway Industrial Equipment Corp.**, Dept. NED, 184 N. Franklin St., Chicago 6, Ill.

For more details circle NED-487 H3 on enclosed inquiry slip

GLUE DRIER

high frequency, one hand "gun"



Positioning on the work and tuning of this high frequency glue drier requires only one hand, freeing the other for positioning of workpieces. Held in the right hand, unit is touched to the glue joint and the tuning control adjusted by rotating the thumb to send high frequency radio waves through the material. Alternating at more than 27 million times per second, waves agitate the glue molecules to cause heat within the material, causing it to dry rapidly. Wood, plastic and similar materials can be processed. Special electrodes are available for drying corners, curves and special shapes. A three-position switch and timer are incorporated. Made by **Merit Short Wave Diathermy Co.**, 2758 Whittier Blvd., Los Angeles 23, Calif.

For more details circle NED-488 H3 on enclosed inquiry slip

Variable Speed Drive

Reliance Electric & Engineering Co.—An electronic adjustable speed drive of ¾ to 3-hp in five ratings is described in 12-page illustrated bulletin D-2102. Features of this control system include smooth stopping, starting and reversing; controllable acceleration; an infinitely variable wide speed range and the ability to preset speeds. Eleven typical applications, various accessories, controls and mounting dimensions are all given.

For more details circle NED-489 H3 on enclosed inquiry slip

COUNTING the pulse of INDUSTRY

Productimeters register accurate count of every unit processed . . . eliminate profit-eating losses . . . insure economical plant operation and maximum use of man-hours. There's a size and style to suit every need.

Send for Catalog No. 101

DURANT MANUFACTURING CO.
1922 N. Buffum Street
Milwaukee 1, Wis.
122 Orange Street
Providence 3, R. I.
Representatives in Principal Cities

PRODUCTIMETERS SINCE 1879 *Count Everything*

For more details circle NED-490 H3 on enclosed inquiry slip

PROBLEM:

Obtain higher electrical conductivity without increasing the cross-sectional area of spring blades

SOLUTION:

General Plate provided the solution with **BRONCO** a composite metal

Increased conductivity of spring blades in a time switch was recently required by a manufacturer of demand meters. Operating requisites were high conductivity, excellent spring properties and small cross-sectional area.

General Plate provided the solution with BRONCO, phosphor bronze double-clad on copper. The phosphor bronze makes an excellent spring member; the copper gives increased conductivity. BRONCO 25/50/25 provides an electrical conductivity of 55% compared with solid copper.

BRONCO permits miniaturization. It permits you to make smaller units because you can reduce spring size without sacrificing conductivity.

No matter what your problem, you can profit by using General Plate Composite Metals. Write for Catalog PR700 today.

METALS & CONTROLS CORPORATION
GENERAL PLATE DIVISION
88 FOREST STREET, ATTLEBORO, MASS.

For more details circle NED-491 H3 on enclosed inquiry slip

Towmotor dumps pot of annealed castings into shakeout hopper at Cleveland plant of Eberhard Manufacturing Co.

BOTTOMS UP! Here's to TOWMOTOR, the fast and economical way of handling materials! Easy, too, because TOWMOTOR Power Steering reduces steering effort 80%! And speaking of power, the new "Cushioned Power" Diesels are as gentle and economical as ponies—with all the terrific strength of wild horses! There are dozens of other features that make special jobs like the one above, mere routine, and make *your* job twice as important to the boss. Send today for free booklet, "What Makes It Tick" TOWMOTOR CORPORATION, Div. 2508, 1226 East 152nd Street, Cleveland 10, Ohio.

TOWMOTOR THE ONE-MAN-GANG ®

FORK LIFT TRUCKS and TRACTORS
Since 1919

TOWMOTOR ENGINEERED FOR QUALITY PERFORMANCE

For more details circle NED-492 H3 on enclosed inquiry slip

Airlouvers *have to fit...* you order them *that way*

Fill any wall opening with one or more weather-tight units tailored for the need . . . *without premium cost*

The wide size variation available in Airlouvers — the unique Swartwout louver system — virtually gives you custom-made equipment at economical standard costs. Odd-size units make it easy to fill any size opening with multiples of uniform sections.

Strong formed channel frame houses overlapping blades that assure weather-tightness. Adjustable style Airlouver features positive closing and quick change of blade position. Made in fixed-blade style also. Write for Bulletin ALO-C.

18511 Euclid Avenue, Cleveland 12, Ohio

The **Swartwout Co.**

Roof Ventilators and Ventilating Louvers

POWER PLANT EQUIPMENT • PROCESS INDUSTRY CONTROLS

For more details circle NED-493 H3 on enclosed inquiry slip

BEVERLY THROATLESS SHEARS

MAKE CUTS LIKE THESE

QUICKLY... EASILY... ACCURATELY

18 ga. metal cut with Model B-1 Shear.

Save time, labor and material—use a Beverly to make any cut . . . straight, curved or irregular in any metal. Exclusive design allows work to be turned at any angle while cutting. Standard in the industry for years. 4 models—capacities to ⅜" mild.

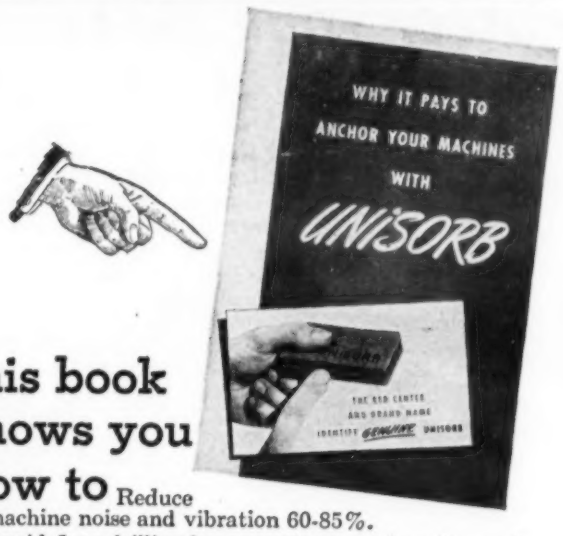
See your Beverly Distributor for a demonstration. Write for FREE illustrated circular on Beverly metal cutting Shears.

MODEL B-3 with ball bearing hold down. Cap. ⅜" mild; 10 gauge stainless.

Beverly SHEAR MFG. CO.

3016 W. 111th STREET • CHICAGO 42, ILLINOIS

▲ For more details circle NED-494 H3 on enclosed inquiry slip ▲



this book shows you how to Reduce machine noise and vibration 60-85%.

Avoid floor drilling by mounting machines the modern way, without bolts or lag screws.

Reduce maintenance costs by eliminating transmitted vibration which damages machines, floors and buildings.

Save time and money when installing new machinery or repositioning present machinery.

Write today for your free copy of "Why It Pays To Anchor Your Machines With UNISORB."

THE FELTERS COMPANY
224 South Street, Boston 11, Massachusetts

UNISORB® MOUNTINGS are used with our special adhesive. UNISORB is also available precoated with adhesive, for use with machines that do not require shimming.

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CHECK... AND COMPARE!

CHAMPION'S EXTRA FEATURES

DOMED PISTONS AND CYLINDERS • SPECIAL PLATE VALVES • STRAIGHT-LINE AIR FLOW • THIN, DEEP COOLING FINS • SPECIAL AFTER-COOLER • NO-LOAD STARTING • TWO MAIN BEARINGS • SIMPLE MAINTENANCE

aero-dynamic design for...

54 MODELS
- ¼ hp to 10 hp units
- horizontal or upright
- stationary or portable
- electric or gasoline

longer life . . . maximum pressure . . . minimum running costs

The air compressor system is a mighty important unit of plant equipment. Many vital production operations depend on it. Whether you plan to add additional compressor equipment — or replace obsoleted units, you should be sure that your new compressor will give you *endurance* PLUS *dependable performance* PLUS *economy.*

These qualities are determined by many things, principally by the materials, workmanship and design of the compressor—not by any single feature. That's why we ask that you *check* and compare the *Extra* CHAMPION *Features* before you make your choice. Check point-by-point and you can't help but pick—the "Champ" of compressors—a CHAMPION.

AIR HOSE REELS
The Hose Reel speeds up work, prevents accidents and saves on air and water hose replacements. May be mounted on ceiling, wall or floor.

WRITE TODAY FOR your FREE copy of the Champion catalog

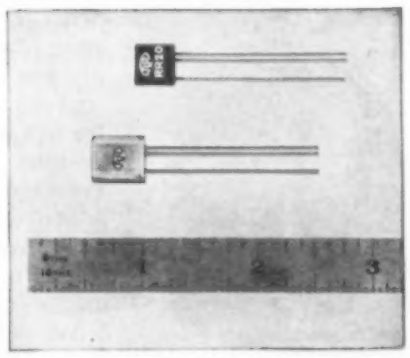
103

CHAMPION PNEUMATIC MACHINERY CO.
837 No. Pleasant St. Princeton, Illinois

PRESSURE CLEANERS • AIR HOSE REELS • AIR ACCESSORIES

▲ For more details circle NED-496 H3 on enclosed inquiry slip ▲

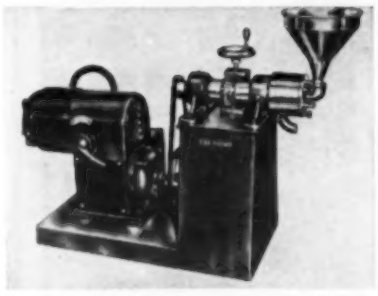
JUNCTION TRANSISTORS
three types for various applications



Useful from direct current to low radio frequency in high gain amplifiers, oscillators and shaping circuits, three types of PNP junction transistors are now available. Excellent performance can be obtained with as little as 0.5-milliampere at 1.5-v of collector voltage. Under these conditions the high gain type RR20 has a current amplification of 40 and a power gain of 36 decibels. The general purpose type RR14 and the economy type RR21 have current amplification of 25. The RR14 and RR20 have cut-off currents of only 10 microamp and a noise figure of 22 decibels. Made by **Radio Receptor Co.**, Sales Dept., 251-A W. Nineteenth St,, New York 11, N. Y.

▲ For more details circle NED-497 H3 on enclosed inquiry slip ▲

MIXING MACHINE
speeds from 2500 to 25,000 rpm



Having a speed range between 2500 and 25,000 rpm, the Tri-Homo homogenizer-dispenser can be used for any liquid or paste type product requiring particle size reduction, grinding, dispersing, milling, emulsifying, homogenizing, wetting, or blending. Correct milling speed is lever-set, and a micrometer type adjustment governs particle size. Rotors and stators are available in a variety of materials such as stainless steel and silicon carbide for particular industries. This heavy duty unit can be floor or bench mounted, and does not require bolting down. Made by **Tri-Homo Corp.**, 190 Highland Ave., Salem, Mass.

▲ For more details circle NED-498 H3 on enclosed inquiry slip ▲

Taped Package Shipping Regulations

Minnesota Mining & Mfg. Co.—Current shipping regulations on sealing and reinforcing packages with pressure-sensitive tapes are presented in 6-page folder. Thirteen illustrations show typical sealing and reinforcing tasks as authorized by the Uniform Freight Classification, Railway Express Agency, U. S. Post Office, American Trucking Association and Export Underwriters.

▲ For more details circle NED-499 H3 on enclosed inquiry slip ▲

RUEMELIN Blast Cleaning CABINETS

RUEMELIN Blast Cabinets are practical for a great variety of cleaning operations. They are extensively used to remove heat-treating scale and to clean sub-assemblies in metalworking shops, foundries, aircraft factories, etc. Built in many sizes. Furnished complete with dust control equipment. Write for Bulletin 32-B.

RUEMELIN MANUFACTURING CO.
3883 N. PALMER ST. • MILWAUKEE 12, WIS., U. S. A.
Manufacturers and Engineers SAND BLAST AND DUST COLLECTING EQUIPMENT, WELDING FUME COLLECTORS

A 5135-1/9AR3

▲ For more details circle NED-500 H3 on enclosed inquiry slip ▲

IS SURFACE FINISHING A PROBLEM TO YOU?

Concise information on applying surface finishes to parts and products made from Babcock & Wilcox Tubing.

Important and salesworthy information on Cleaning—Mechanical Finishing—Metal Coating—Organic Coating.

Send for B&W Bulletin TB 350

TA-1772 (LM)

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
Beaver Falls, Pa.—Seamless Tubing; Welded Stainless Steel Tubing
Alliance, Ohio—Welded Carbon Steel Tubing

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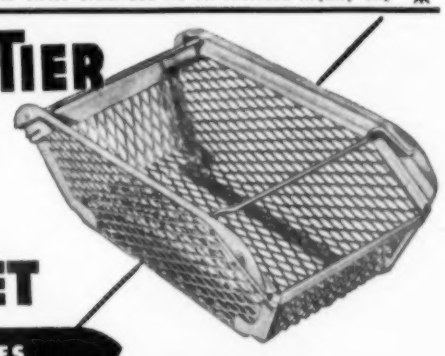
The NESTIER Expanded Metal BASKET



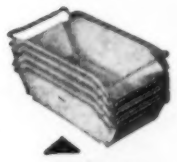
DOES EVERY SMALL PARTS HANDLING JOB!

from stockroom through machining and dipping to assembly and inspection

WITHOUT EVER CHANGING THE CONTAINER!

THERE'S NO RE-HANDLING OF SMALL PARTS when you use the NesTier Metal Basket!

In this scientifically designed NesTier unit, parts can be taken from the first machining operation, and moved swiftly through *all phases of production.* By eliminating the need for changing containers when dipping or degreasing, NesTier Baskets effect *tremendous savings of time and labor*—actually *pay for themselves* many times over.



IT NESTS IT TIERS

Constructed with all basic NesTier features, the Basket serves perfectly as an all-purpose tote-box, usable from stockroom to loading dock. It can be transported by overhead and roller conveyors, on pallets and skids, or can be carried easily by hand. Requires minimum storage space, presents a neat, orderly appearance wherever tiered or nested.

In every way, the NesTier Basket streamlines small parts handling, cuts production costs.

The Basket is interchangeable with the standard sheet steel NesTier. Two standard sizes. Heavy-gauge steel, zinc plated.

MATERIALS HANDLING ENGINEERS — WRITE FOR FREE DESCRIPTIVE BULLETIN TODAY!

NESTIER®

THE CHAS. WM. DOEPKE MANUFACTURING CO., INC.
Metal Specialties Division
ROSSMOYNE, OHIO

▲ For more details circle NED-502 H3 on enclosed inquiry slip ▲

Specify

ESSEX EXTRA TEST TEFLON MAGNET WIRE

WIRE SX PRODUCTS

for Your Highest Temperature Applications

★ CAN WITHSTAND 250° C for short periods of time; or 200° C continuously.

★ SUPERIOR RESISTANCE to acids, solvents, chemicals and moisture.

★ GOOD SPACE FACTOR, flexibility and abrasion resistance.

Teflon is the DuPont trademark for Polytetrafluoroethylene enamel.

ESSEX WIRE CORPORATION
FORT WAYNE 6, INDIANA

WAREHOUSES* AND SALES OFFICES: *Atlanta, Ga.; *Boston, Mass.; *Chicago, Ill.; Cleveland, Ohio; Dallas, Texas; Dayton, Ohio; *Detroit, Mich.; Indianapolis, Ind.; *Kansas City, Mo.; *Los Angeles, Calif.; Milwaukee, Wis.; *Newark, N. J.; *Portland, Ore.; Upper Darby, Philadelphia, Pa.; *St. Louis, Mo.; *San Diego, Calif.; San Francisco, Calif.

▲ For more details circle NED-503 H3 on enclosed inquiry slip ▲

GET MORE PRODUCTIVE HOURS WITHOUT ADDED MANPOWER*

*with HYPRESSURE Jenny STEAM CLEANER

One man, using HYPRESSURE JENNY, can do more cleaning in a single hour than 10 men can accomplish in the same time by outmoded hand cleaning methods.

JENNY cleans anything—*anywhere*—machinery . . . tools . . . walls . . . floors . . . skylights . . . trucks . . . tank cars . . . and processing equipment of every description, in factories, mills, food plants, garages, repair shops, and on the farm. JENNY hates grease, muck and dirt—cleans right "down-to-the-bone." Saves up to 40% of mechanics' time, usually lost fighting dirt and grease on repair work.

Keeping house with JENNY pays valuable dividends in stepped-up production, fewer lost-time accidents, lower fire insurance premiums and increased personnel efficiency.

HYPRESSURE JENNY DIVISION
Homestead Valve Manufacturing Company
"Serving Since 1892"
P. O. BOX 84 CORAOPOLIS, PA.

Write today for information packed booklet "1001 WAYS TO EXTRA PROFITS with HYPRESSURE JENNY STEAM CLEANER." It's yours FREE, and without obligation.

▲ For more details circle NED-504 H3 on enclosed inquiry slip ▲

TOLEDO SELLS ONLY THROUGH ITS DISTRIBUTORS

No other method of distribution has ever matched Manufacturer to Distributor to User. It's the most economical short cut to getting goods promptly to users.

Our 50 years experience in marketing the TOLEDO line of pipe tools and power pipe machines has proven this fact beyond a doubt.

- ECONOMY—Buying many products from one source simplifies your problems of purchasing, selling, bookkeeping and storage.
- SPEED—Your Distributor carries large stocks of equipment you need for immediate delivery.
- RELIABILITY—Your Distributor is your friend and neighbor. Rely upon him. He serves you well.
- PERSONAL CONTACT—Your Distributor's salesmen are ready at all times to help you in emergencies.

Depend on your Distributor and TOLEDO for reliable service at all times. The Toledo Pipe Threading Machine Co., Toledo, Ohio.

"TOLEDO"
Mark of Quality on Fine Pipe Tools

▲ For more details circle NED-505 H3 on enclosed inquiry slip ▲

TORQUE CONVERTERS
range from 325 to 1000 hp

With a power range of from 325 to over 1000 hp, two hydraulic torque converters are designed for use with high torque, medium speed engines. Potential uses are in power shovels, hoists, cranes, switching locomotives, etc. Units lengthen the life of both engine and driven equipment because they act as a cushion, smoothing the flow of power and preventing transmission of shock and vibration in either direction. The 29½-in. A-295-F and 34¼-in. type A-342-F converters are mounted on a standard No. 00 flywheel housing and add only 36½ in. to overall length of the engine. Made by **National Supply Co.**, Adv. Dept., 142 Stanwix St., Pittsburgh 22, Pa.

▲ For more details circle NED-506 H3 on enclosed inquiry slip ▲

VERTICAL CASE CONVEYOR
has automatic in-feed and discharge

Built with an automatic in-feed and discharge, this vertical case conveyor minimizes labor costs and space necessary for operation. Cases from a horizontal belt conveyor are fed into the vertical in-line system where they are tightly gripped between friction-surface conveyor belts, augmented with spring-loaded rollers. Conveyor can be adjusted for variance in case size up to 2 in. At the top, cases are discharged onto another conveyor. Automatic case size adjustment up to 4½ in., or one-station, wide range adjustment are available on specification. Made by **Conveyor Specialties Co.**, Dept. KP, 666 E. Third St., St. Paul, Minn.

▲ For more details circle NED-507 H3 on enclosed inquiry slip ▲

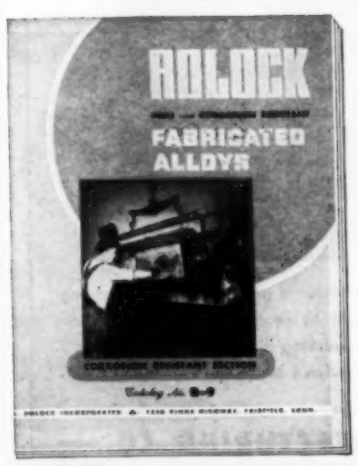
Bearing Bronze Bars

Bearium Metals Corp.—6 pages of illustrated bulletin describes and presents characteristics of Bearium metal, a bearing bronze which contains finely dispersed particles of lead. Typical applications and available forms are covered. Accompanying 4-page illustrated stock list of cored and solid Bearium metal bars shows dimensions available and approximate weights for 12-in. lengths.

▲ For more details circle NED-508 H3 on enclosed inquiry slip ▲

ROLOCK FABRICATED ALLOYS
HEAT AND CORROSION RESISTANT

NEW and COMPLETE . . .



specialized reference on Pickling, Degreasing, Galvanizing and other processing operations. Baskets, Manual and Motor-powered Barrels . . . Trunnion, Centrifugal, Bottom-dumping Baskets, Shell Case containers.

• • •

Send for this No. B-9 Corrosion Resistant Section of Rolock's catalog . . . just off the press. It's full of valuable ideas.

11RL52R

ROLOCK, INC.
1412 KINGS HIGHWAY, FAIRFIELD, CONN.

▲ For more details circle NED-509 H3 on enclosed inquiry slip ▲

A—Deep crack. B—Tamping Smooth-On in. C—Crack completely sealed.

If You've Never Used SMOOTH-ON, *read this:*

Smooth-On No. 1 Iron Cement is a metallic powder which you mix with water to the consistency of putty. You tamp it, while still soft, into a crack or hole, making sure to force it against all surfaces. With Smooth-On you don't need to use heat or special gadgets. As it hardens, it expands slightly, clinging tightly in place. The repaired part is ready for use as soon as Smooth-On sets hard. Keep Smooth-On handy for both emergency and routine maintenance repairs. Buy it in 7 oz., 1 lb., 5 lb., 20 lb., or 100 lb. size. If your supply house hasn't Smooth-On No. 1, write us.

FREE 40-PAGE REPAIR HANDBOOK

Shows many industrial and home repairs made with No. 1 and other Smooth-On Cements. Leaks stopped, cracks sealed, loose parts made tight. 140 illustrations. Drop us a line for YOUR free copy.

SMOOTH-ON MFG. CO., Dept. 10
570 Communipaw Ave., Jersey City 4, N. J.

Do it with SMOOTH-ON
THE IRON REPAIR CEMENT OF MANY USES

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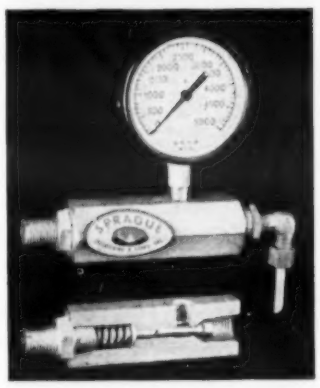
PROTECT YOUR GAGES!



New Shut Off Valve automatically cuts out gage from system when hydraulic or pneumatic pressure goes beyond its operating limit. Automatically opens when pressure is again within operating range of gage. (Cut-in point approx. 80% of set cut-out point.) Available for low pressures—30, 60, 100, 200 and 300 PSI, and high pressures—500, 1000, 1500, 2000, 2500, 3000 and 5000 PSI. Sprague Gage Shut Offs installed in a hydraulic system with multiple gages of various ranges, save valuable man hours. They eliminate the necessity of the operator opening and closing manually operated shut off valves for the various gages in the system. Supplied with standard pipe thread connections but can also be furnished with AN adaptors for aircraft fittings. Connection to the system is made at the end of shut off, ½" pipe thread. Connection to gage is made on the side of shut off, ¼" pipe thread. Overall length 5½ inches. Body is 1½ inch hexagon stock. Other models with bronze or stainless steel bodies available for water service. Finest construction. Individually tested and fully guaranteed. When ordering, specify capacities desired. Write today for bulletin.

SPRAGUE ENGINEERING & SALES CORP.
1144 West 135th St., Gardena, Calif.
Designers and Manufacturers of Precision Aircraft and Industrial Test Equipment.

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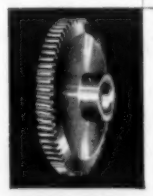
Where Precision Specifications Are A "Must"

RYNEL



PRECISION GEARS OFFER

DESIGN ENGINEERING
PRODUCTION SUPPLY
GEAR LABORATORY ANALYSIS
AIR-LIFT SERVICE

DESIGNERS AND SUPPLIERS
Electronic
Instrument
Communication
Navigation
Power Tool
and
Appliance

FINE PITCH GEARS

Complete gear service not only in design and supply, but in ultimate product performance, is assured by Rynel's new production system of gear quality control. Gear laboratory checking and executive-type air service assure you of precision specifications, custom-designed and delivered to meet your requirements.

Consult Rynel engineers on your precision gear requirements, 12 pitch and finer.

A Rynel Engineer will visit you the same day you call.

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SPUR • HELICAL • WORM • WORM GEAR • INTERNAL SEGMENT • RATCHET • STRAIGHT BEVEL GEARS

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DO YOU NEED SPECIAL FASTENERS

Why not use National's Special Product Service? It's sure to save you time and money in duplicating special fasteners you may now be using, or in designing and producing entirely new ones.

National engineers can help you find the solution to practically any fastener problem. Send us your samples or specifications, or call your nearest National representative. And remember . . . National makes the most complete line of standard fasteners and specialties such as lock nuts and self-locking bolts and screws.

Representatives in: Chicago, Cincinnati, Detroit, New York, Philadelphia, Kansas City, Denver, San Francisco and Seattle.

National Products

THE NATIONAL SCREW & MFG. CO.
2440 East 75th St., Cleveland 4, Ohio

For more details circle NED-513 H3 on enclosed inquiry slip

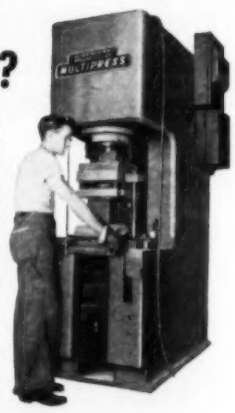
Write today for complete descriptive catalog

ST. ANTHONY MACHINE PRODUCTS CO.
2422 Franklin Ave., Minneapolis 8, Minn.

For more details circle NED-514 H3 on enclosed inquiry slip

Want Better, Faster Production?

Which MULTIPRESS Fits Your Needs BEST?



The fast, smooth oil-hydraulic power and control of Multipress consistently brings production gains of many kinds. *Stroke length, ram speed* and *pressure* are easily adjusted to exact needs — for higher production speeds, better metal flow, better quality of work, less wear and tear on dies, safer operation, easier handling and quieter action. Equipped with automatic Multipress Index Tables, Multipress often keeps *two or more* operators busy loading parts at top speed. Other job-speeding accessories also available. Note the many Multipress sizes and capacities in the chart below. *Write for details.*

SPECIFICATIONS		BENCH MODELS				FLOOR MODELS				
Frame Size		B	D	F	G	H	K	L	N	Q
Capacities (Tons)		1	2,3,4,6	2,4,8	5,10	5,10,15	25	35	50	75
Max. Ram Speeds (I.P.M.)	Closing	1100	1300	1300	700	700	530	530	290	210
	Pressing	400	570	570	220	280	250	250	145	110
	Opening	600	920	920	310	500	470	470	290	220
Max. Stroke		6"	12"	12"	12"	12"	15"	15"	15"	15"
Max. Daylight Open'g		15⅜"	12"	18"	24"	23"	24"	24"	24"	30"
Throat Depth		5"	6"	8⅛"	12"	10"	12"	12"	12"	10"

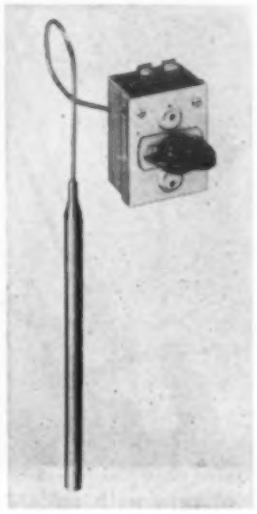
CHOICE OF MANUAL AND AUTOMATIC CONTROL VALVES FOR ALL MODELS

DENISON HydrOILics

The DENISON Engineering Company
1151 Dublin Rd., Columbus 16, Ohio

For more details circle NED-515 H3 on enclosed inquiry slip

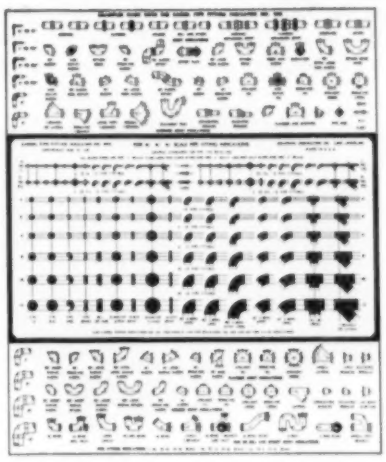
SNAP ACTION THERMOSTAT
four ranges span 40° to 555° F



In type F Space Saver thermostat, expansion and contraction of stable liquid in bulb actuates contact mechanism by transmitting motion to expansible diaphragm through capillary tube. This motion is multiplied to obtain very close temperature control. Contact mechanism is single-pole, double-break, snap-action type with silver contacts rated 22 amp at 120 and 240 v ac, non-inductive load. Four available units cover 40° to 550° F range. In type F-1, normally-open contacts close on temperature rise, while in type F-2, normally-closed contacts open on temperature rise. Controls can be used with any standard dial or pointer having ¼-in. diameter shaft hole. Made by **Wilcolator Co.**, 1002 Elizabeth Ave., Elizabeth, N. J.

For more details circle NED-516 H3 on enclosed inquiry slip

PIPE FITTING INDICATOR
shows over 2000 fitting indications



Accurately made to scale, Cassell No. 253 pipe fitting indicator can be used for over 2000 combined pipe fitting indications. Drafting template shows ⅛ to 12-in. ID pipe fittings in scales of ⅛, ¼ and ½-in. Actual size of indicator is 5⅜ x 9⅞ in. It is made of rigid translucent plastic with a nonslip surface. Made by **Graphic Indicator Co.**, Dept. N, 1739 S. La Cienega Blvd., Los Angeles 35, Calif.

For more details circle NED-517 H3 on enclosed inquiry slip

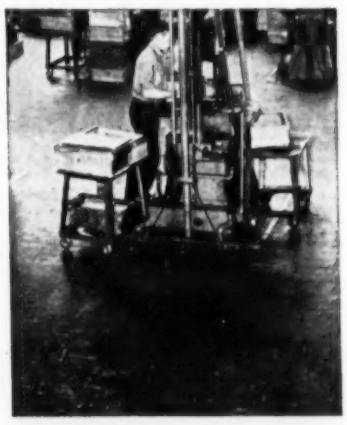
Welding Electrodes

Air Reduction Sales Co.—50-page illustrated pocket guide covers over 30 different Airco electrodes—stainless, mild and high tensile steels, cast iron, nonferrous, low hydrogen and hardfacing. Chemical analyses, procedures for welding and application are detailed. Other sections are devoted to picking the right electrode, mechanical properties, testing and AWS-ASTM specifications.

For more details circle NED-518 H3 on enclosed inquiry slip

Floors have to take a beating?

GET TUFF-TEX*!



Heavy traffic and machining areas, testing labs, plant eating places . . . *need* Tuff-Tex *Greaseproof* Industrial Tile!

Tuff-Tex is the ideal flooring for resisting impact . . . fire . . . metal chips . . . constant rolling friction . . . cutting oils and lubricants . . . greasy foods.

It's *good-looking*, too! Comes in a wide range of rich, permanent colors. Offers versatility of design . . . both functional and decorative.

Send today for folder, "Tuff-Tex *Greaseproof* Industrial Tile" . . . or see your Tile-Tex* Contractor, listed in classified pages of phone book. Ask him about Flexachrome*, too.

• • •

THE TILE-TEX DIVISION, The Flintkote Company, 1234 McKinley Street, Chicago Heights, Illinois

Tile-Tex—Pioneer Division, The Flintkote Company, P. O. Box 2218 Terminal Annex, Los Angeles, 54, California

The Flintkote Company of Canada, Ltd., 30th Street, Long Branch, Toronto, Canada

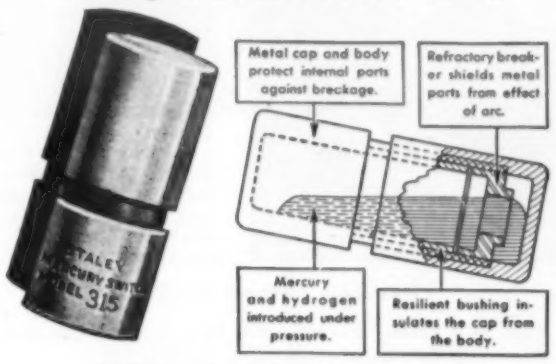
*Registered Trademark, The Flintkote Company

TUFF-TEX GREASEPROOF INDUSTRIAL TILE

For more details circle NED-519 H3 on enclosed inquiry slip

USE STALEY METALLIC MERCURY SWITCHES

for long-lived, trouble free service



Millions in Use—here's why!

1. Positive mercury-to-mercury contact *without* danger of breakage.
2. Concentric design—never a wrong side up in any installation.
3. De-ionized arc quench occurs in an inert gas, insuring long life and dependable service.
4. Handle instantaneous loads several times rated capacity; high degree of safety in explosive atmospheres.
5. Available in two types: (1) non-insulated for clip mounting; (2) insulated and provided with flexible terminals.

For a better method of making and breaking electrical circuits, with no switch points to burn, pit or stick and no glass to break, standardize on long-lasting Staley Metallic Mercury Switches. Millions in use. Wire today for descriptive Bulletin.

ELECTRIC SWITCH CORPORATION
1303 E. Eleventh Street, Columbus, Indiana

For more details circle NED-520 H3 on enclosed inquiry slip

NEW COST-SAVING INFORMATION!

for —
- *Architects*
- *Consulting Engineers*
- *Contractors*
- *Plant Engineers*
- *Power Engineers*
- *Building Managements*

If you're concerned in any way with specifying, selecting, installing, operating or maintaining boilers for any kind of plant or building, you'll want this new bulletin describing the latest cost-saving features of

Powermaster®
PACKAGED AUTOMATIC BOILERS

Then compare *Powermaster*, feature by feature, with any other packaged boiler and you'll see why it's today's best buy in automatic steam generation. For example, only *Powermaster* now guarantees 83% *minimum* efficiency with No. 6 oil! That means real fuel economy.

SEND FOR BULLETIN 1219 NOW...
on your company letterhead, telling us your steam requirements and operating conditions.

ORR & SEMBOWER, INC.
930 Morgantown Road, Reading, Penna.

For more details circle NED-521 H3 on enclosed inquiry slip

Major CHANGES MADE Minor WITH
Trumbull Flex-A-Power® Busways

Plant expansion, or rearrangement of production machines, becomes a simple matter when a Flex-A-Power electrical distribution system is installed. Machines plug in almost as easily as your toaster. New sections can be added quickly and inexpensively. An entire system can be dismantled and reinstalled with almost 100 per cent reuse of material.

Available in these types:

* **Type LVD Feeder Busway,** 600-4000 amps, 2-, 3- and 4-pole, to 600 v.
* **Type FVK Plug-In Busway,** 225-1000 amps, 2- and 3-pole and 3 phase 4 wire, to 600 v.

Type LTG Plug-In and Trolley Busway, 50 amps, 2-, 3- and 4-pole, 300 v., AC or DC.

Type TK Heavy Duty Trolley Busway, 100, 200 and 400 amps, 2- and 3-pole, to 600 v.

** With copper or aluminum busbars.*

TRUMBULL ELECTRIC
DEPARTMENT OF GENERAL ELECTRIC COMPANY
PLAINVILLE, CONN.

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CAMCAR
UP TO THE MINUTE
STOCK LIST

Continuous Inventory of
AN NAS CT SCREWS • SPECIALS • INDENTED HEX HEAD • SHEET METAL • SEMS • STANDARDS • PHILLIPS HEAD •
Steel, Brass, Stainless Aluminum

For Prompt Shipment
Assembly line fastener supply — right at your fingertips. That's what Camcar Stock List Service gives you twice monthly.

Use this Stock List for quick service on your Fastener Supply Problems. Request on Your Letterhead Will Bring Regular Mailing.

Telephone 5-9451
Teletype RK8653

CAMCAR SCREW & MFG. CORP.
601 Eighteenth Avenue
Rockford, Illinois

"PRODUCTION DESIGNED FOR YOUR ASSEMBLY LINE"

▲ For more details circle **NED-523 H3** on enclosed inquiry slip ▲

MERCURY LAMP
for flood or general lighting use

Recommended minimum mounting height of 24 ft for the A-H18 700 w mercury lamp makes it suitable for flood and general lighting applications. It gives 35,000 lumens initially and has average rated life of 4000 hours. Lamp can be operated from 460-v circuits with simple choke and from other voltages with suitable ballast which acts as a transformer. Isothermal bulb shape provides even operating temperatures over entire bulb wall. Lamp burns in any position and will start readily at low temperatures. Made by **Westinghouse Electric Corp.,** Lamp Div., MacArthur Ave., Bloomfield, N. J.

▲ For more details circle **NED-524 H3** on enclosed inquiry slip ▲

ELECTRONIC TACHOMETER
simplified unit construction

Simplified unit construction is but one of the advantages of this electronic tachometer for measurement of speed, frequency or events per unit of time. It has an accuracy of count of plus or minus 1, an accuracy of time base of 1 part per million, a power requirement of 100 w and measures 12 x 8 x 12-in. The instrument has 11 plug-in chassis, 22 vacuum tubes and 7 plug-in cold cathode counter tubes. Readings are readily and instantly taken. Made by **Standard Electric Time Co.,** Dept. 200, Springfield 2, Mass.

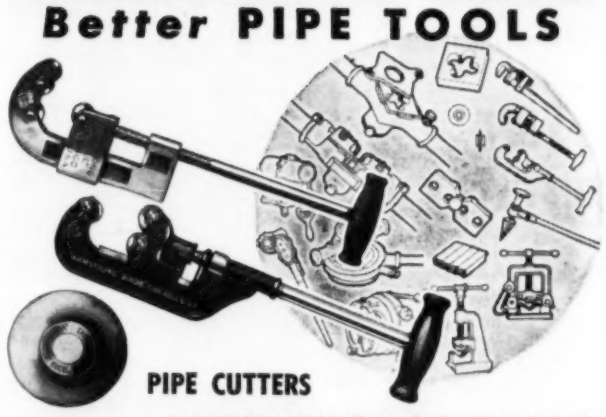
▲ For more details circle **NED-525 H3** on enclosed inquiry slip ▲

Soil Testing Equipment

Soiltest, Inc.—72-page catalog 53 describes and illustrates over 800 items of apparatus for engineering tests of soils, concrete and bituminous materials. Equipment section covers Triaxial, Consolidation, California bearing ratio, Compaction, pore pressure and all standard apparatus for field and laboratory engineering tests of soils. Sections are also found on general laboratory apparatus, ovens, scales, mixing machines and laboratory furniture.

▲ For more details circle **NED-526 H3** on enclosed inquiry slip ▲

ARMSTRONG BROS.
Better PIPE TOOLS



PIPE CUTTERS

"ARMSTRONG BROS." Three wheel and Standard wheel and roller Pipe Cutters are quality cutters throughout . . . built to give years of good service.

"ARMSTRONG BROS." drop forged Pipe Cutters are built for lifetime service with 1-piece drop forged steel heat treated body and a replaceable hardened steel nut to take up the wear and thrust of handle screw. Used either as 1-wheel (with 2 rollers) or 3-wheel (for close quarters).

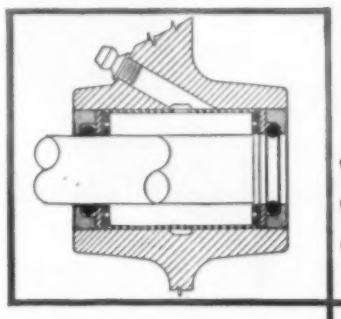
"ARMSTRONG BROS." Knife Blade Cutter Wheels are machined from special alloy tool steel properly heat treated. They cut rapidly and easily, hold their keen edge.

Write for Catalog

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
5245 W. ARMSTRONG AVENUE • CHICAGO 30, ILL.

▲ For more details circle **NED-527 H3** on enclosed inquiry slip ▲

NEW SEALED BEARINGS
on Bassick wheels and casters



✓ low cost
✓ new basic design
✓ positive seal

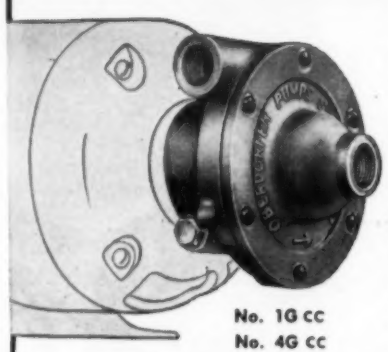
seals in lubricant . . . seals out dirt!

Now furnished on many popular sizes of Bassick industrial rubber-tread wheels and casters. Write for facts. THE BASSICK COMPANY, Bridgeport 2, Conn. In Canada: Belleville, Ont.

Bassick
A DIVISION OF STEWART SW WARNER
MAKING MORE KINDS OF CASTERS . . . MAKING CASTERS DO MORE

▲ For more details circle **NED-528 H3** on enclosed inquiry slip ▲

Close coupled, centrifugal, motor driven
OBERDORFER BRONZE PUMPS



No. 1G CC
No. 4G CC

1G cc is complete motor-pump unit with 1/12 H.P., 3450 RPM, 110 volt, A.C. ball bearing thermal overload motor. Motor frame Nema 42 with end bell machined for pump mounting. Pump has mechanical Rotary face type seal.

4G cc is complete motor-pump unit with ⅓ H.P., 3450 RPM, 110 volt, A.C. thermal overload motor. Motor frame Nema 56 with end bell machined for pump mounting. Pump has mechanical Rotary face type seal.

OVERALL DIMENSIONS—Motor and Pump Unit

Pump No.	Height	Width	Length	Suction	Discharge
1G cc	5"	4¾"	9"	⅜ N.P.T.	⅜ N.P.T.
4G cc	6⅝"	6 5/16"	11¼"	¾ N.P.T.	½ N.P.T.

CAPACITIES—Gal. per min. —3450 RPM - Foot Water Head

Ft. Water	0	5	10	15	20	25	30	35
1G cc	7	6⅛	5	4	1½	—	—	—
4G cc	23	22	20	18	15	12	8	2

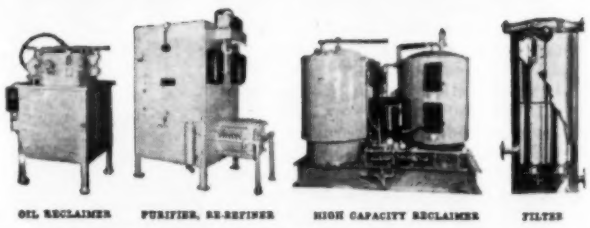
See our catalog in Sweet's PRODUCT DESIGN File

Oberdorfer Foundries, Inc., Ind. Pump Div.
238 Thompson Rd. Syracuse, N. Y.

▲ For more details circle **NED-529 H3** on enclosed inquiry slip ▲

HILCO LUBRICATING AND INDUSTRIAL OIL MAINTENANCE EQUIPMENT

Saves You **MONEY, OIL and MACHINERY**



A COMPLETE LINE OF EQUIPMENT FOR RECLAIMING, FILTERING, PURIFYING AND RE-REFINING OIL.

★ Hilco units are available for continuous or batch operation. You can keep your lubricating and industrial oils clean and recover large quantities of oil at low cost.

Whenever Oil is used it becomes contaminated—must be discarded or conditioned for further use.

There is a HILCO to do This Job for You
Cleans Oil, Reduces Down Time, Increases Production!

★ Tell Us About Equipment You Are Operating and We Will Forward FREE Literature and Recommendations.

OIL PURIFIER DIVISION
THE HILLIARD CORPORATION
40 W. 4th ST. • ELMIRA, N.Y.
IN CANADA — Upton - Bradeen - James, Ltd.
990 Bay St., Toronto, 3464 Park Ave., Montreal

▲ For more details circle **NED-530 H3** on enclosed inquiry slip ▲

At left: Jacketed 3-Way Plug Cock.

Below: Cutaway section of Jacketed Cock, showing packing gland construction.

H&B ESTABLISHED 1897

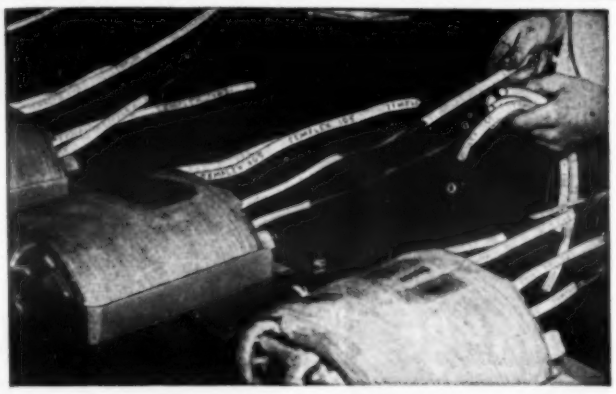
Jacketed Pipe, Pumps, Valves and Fittings . . .

Regardless of whether the material is being heated or cooled in the processing, and what heating or cooling medium is being used, H & B jacketed fittings are available for all applications. Steam, hot water or hot oil may be used for heating, cold water or brine for cooling.

H & B can save you money on your jacketed pipe and fitting requirements because we buy all standard size pipe from the mill in carload lots, make our own special flanges in quantities, and are tooled up for making jacketed equipment at lowest possible price. Write for Bulletin J-50.

Hetherington & Berner Inc.
751 Kentucky Avenue • Indianapolis 7, Indiana

For more details circle NED-531 H3 on enclosed inquiry slip



Wagner Electric reports "Long Life"
when transformer leads are insulated with Temflex 105

Temflex 105 Plastic Tubing—product of Irvington's Fibron Division—is approved by Underwriters' Laboratories for *continuous* operation at 105° C.—*and* for operation in oil at 90° C. It retains its high dielectric strength, flexibility and elongation after continuous high-temperature operation, varnishing, baking or immersion in chemicals.

Produced in all standard colors, readily identified by the continuously printed name on the smooth tubing surface.

Get the full facts—write for Technical Data Sheet.

LOOK TO IRVINGTON FOR INSULATION LEADERSHIP
IRVINGTON
VARNISH & INSULATOR COMPANY
14 Argyle Terrace, Irvington 11, New Jersey
Plants: Irvington, N. J.; Monrovia, Calif.; Hamilton, Ontario, Canada

For more details circle NED-532 H3 on enclosed inquiry slip

Wherever you use glass fiber . . .

For insulation, for sound deadening . . . for duct work, padding, laminating . . . under automobile hoods, roofs, dash panels . . . and a thousand other uses.

You can use a 3M ADHESIVE

Yes, there's a 3M Adhesive to fit your glass fiber application needs . . . whether the qualities you require are fire-resistance, freedom from odor, ability to withstand high humidity, and other properties.

Proven in use by the refrigerator industry, automobile manufacturers, the armed forces and others, 3M Adhesives stick glass fiber to virtually anything.

3M Adhesives will help simplify your operations, too. Let us give you the specifications. For details, write to 3M, Dept 88, 411 Piquette Avenue, Detroit 2, Michigan.

3M COMPANY
MINNESOTA MINING AND MANUFACTURING COMPANY
ADHESIVES AND COATINGS DIVISION

see our catalog in PRODUCT DESIGN FILE or write for copy

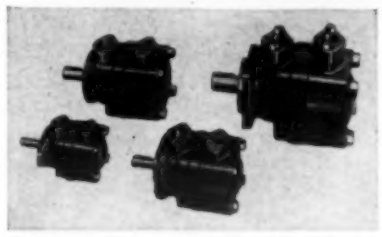
For more details circle NED-533 H3 on enclosed inquiry slip

TELEVISION SYSTEM
compact closed-circuit type

Consisting of a 4-lb camera and a 14-lb transitorized control unit and power supply, the TV-Eye closed-circuit television system employs a standard type receiver as a monitor. It utilizes a free channel which can be tuned without interfering with reception on other channels. Any standard 16-mm camera type C mount lens can be used on the camera which has no operating controls on it. Several TV-Eye systems can be connected to the same receiver with the desired picture selected by turning the receiver channel selector. System is easily adaptable to audio signal by a kit available at extra cost. Made by **Radio Corp. of America,** RCA Victor Div., Engineering Products Dept., Camden 2, N. J.

For more details circle NED-534 H3 on enclosed inquiry slip

HYDRAULIC MOTORS
in 7.7 to 21.6-hp output sizes



Hydraulic rotary power for all types of mobile and industrial machinery is provided by Series M2-300 and M2-400 vane motors. Former is available in 7.7, 10.2 and 12.8-hp output sizes, while latter series is furnished in 16.6 and 21.6-hp sizes. Units incorporate automatic pressure loading, automatic adjustment of both radial and axial clearances and constantly lubricated rotor faces and vanes. "Rocking beam" construction provides intimate contact between vanes and cam ring without use of conventional spring-type actuators. Four combinations of inlet-outlet port positions afford choice of face, flange or foot mounting and either direct, belt, chain or gear drive. Made by **Vickers Inc.,** 1456 Oakman Blvd., Detroit 32, Mich.

For more details circle NED-535 H3 on enclosed inquiry slip

Weather-Compensating Heating Control

Sarcotherm Controls, Inc.—Company has published Section 1 of their general catalog dealing with weather-compensated control systems for hot water heating, radiant heating and warm air systems. Complete line of outdoor controls is described together with technical data and specifications. Section 2 on steam heating control systems and No. 3 on electrical accessories are also available.

For more details circle NED-536 H3 on enclosed inquiry slip

if it's FLAMEFOIL*
It can't Blaze

Approved by all recognized safety authorities

Write us for samples you can test to your own satisfaction. Please specify the approximate weight of duck desired.

Manufactured under Patents Nos. 2,014,176 and 2,299,612 . . . . . others pending.

RESISTANT to
• FIRE
• WATER
• WEATHER
• MILDEW

PHILADELPHIA TEXTILE FINISHERS, Inc.
108 Lafayette St. Norristown, Penna.
PROCESSORS OF FLAME-RESISTANT FABRICS

For more details circle NED-537 H3 on enclosed inquiry slip

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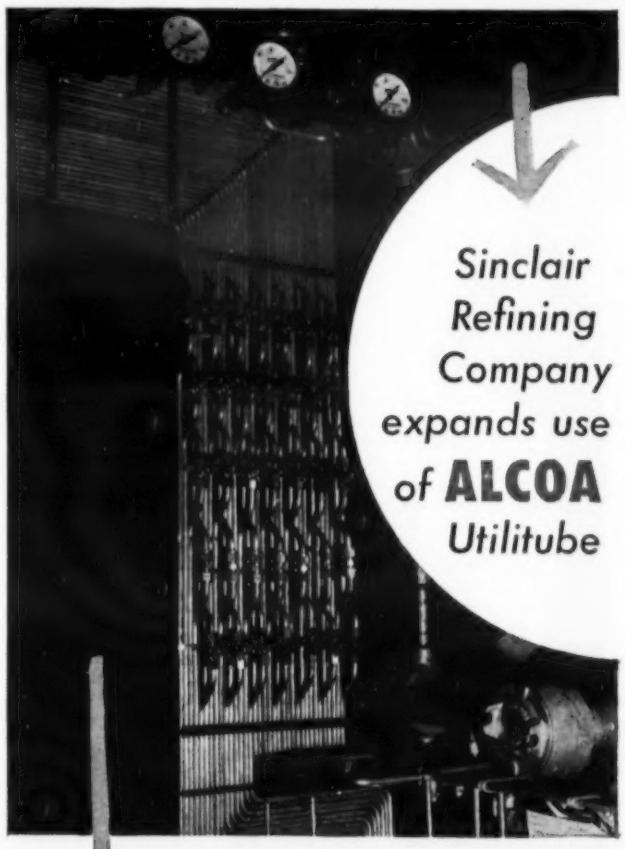
If you are:
• Recording
• Controlling
• Measuring
Temperature and/or Pressure

These four big catalogs will help you to select the right Gotham Instrument for your application. They are yours for the asking. Just write today on your business letterhead. Our engineers will be happy to help you solve special instrumentation problems without obligation.

GOTHAM INSTRUMENTS
Keep Everything Under Control With Gotham
Division of American Machine and Metals, Inc.
Dept. 1, 233 Broadway, New York 12, N.Y.

For more details circle NED-538 H3 on enclosed inquiry slip



Sinclair Refining Company expands use of ALCOA Utilitube

ALCOA Utilitube* serves air to control board instruments at Sinclair's Light Oil Treating Plant, Houston, Texas. Satisfactory operation of two other Alcoa Aluminum Coiled Tube installations prompted this new installation.

USE ALCOA UTILITUBE for fuel and lube lines, for hydraulic fluids, for air and refrigerants. It will not gum or sludge in petroleum service, nor will it discolor or contaminate the fluid it carries.

USE ALCOA UTILITUBE TO SAVE MONEY. It's the lowest cost corrosion-resistant metal tube you can buy . . . may very easily cut your tube costs by 40 per cent!

ALCOA UTILITUBE forms, flares and bends as easy as annealed copper yet work hardens less. At subzero temperatures it actually gets stronger!

ALCOA UTILITUBE AND FITTINGS are available from your aluminum distributor. For complete information, write for the booklet: "Alcoa Utilitube."

ALUMINUM COMPANY OF AMERICA
1002-H Alcoa Building, Pittsburgh 19, Pa.

*Registered Trademark, Aluminum Co. of America

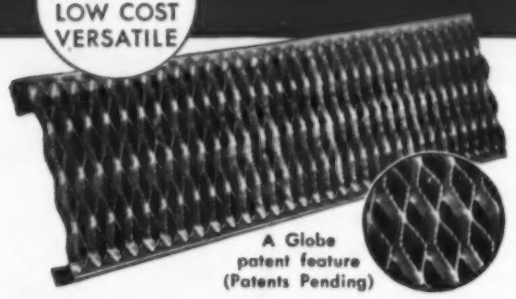
Alcoa Aluminum
ALUMINUM COMPANY OF AMERICA

For more details circle NED-539 H3 on enclosed inquiry slip

Safety GRIP-STRUT

gives Maximum Strength with Minimum Weight

NON-SKID
RUGGED
LOW COST
VERSATILE



A Globe patent feature (Patents Pending)

Not welded, not riveted, not expanded, all one piece of material, gives a non-skid surface in *all* directions, a diamond shaped pattern with open space area in excess of 75% of surface, easily cleaned, sanitary. Simple to install, ideal for on-the-job fabricating, replaces existing grating with no supporting structural changes necessary. Strong yet light in weight. Ideal for stair treads, work platforms, catwalks, flooring, running board steps, in fact for any purpose where safe flooring is a factor. Available in steel or aluminum. Write for new catalog, showing new low prices, methods of application, typical installations and list of nationally known users.

Distributors in all principal cities.

GRIP-STRUT division
THE GLOBE COMPANY
Manufacturers since 1914
4007 S. Princeton Ave. • Chicago 9, Ill.

For more details circle NED-540 H3 on enclosed inquiry slip

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A Directory of Technical Data Available From Arcos To Help You On Your Welding Jobs

Whether your problem involves welding stainless, low alloy-high tensile, or non-ferrous metals, this handy Directory will tell you quickly the wealth of practical information available from Arcos for your use. Right at your fingertips it places a convenient recap on what Arcos offers, such as: **Application Chart and Weld Metal Analysis on 56 Different Arcos Electrodes; Stainless Electrode Selector For Welding Stainless Steels; ABC's of Welding High Tensile Steels; plus informative charts, electrode data sheets, reprinted articles on welding, technical guides, etc.**

Send for your copy today. Ask for booklet #10528. There's no obligation. And for dependable welding results at all times, WELD WITH ARCOS STAINLESS, LOW HYDROGEN and NON-FERROUS ELECTRODES.

ARCOS CORPORATION
1500 South 50th Street • Philadelphia 43, Pa.

For more details circle NED-541 H3 on enclosed inquiry slip

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PROVEN...
INDUSTRIAL STACKED RETAINING RINGS

Proven success is the only success . . . and Industrial Stacked Retaining Rings have been adopted successfully by leading manufacturers in the country. Why? —Because they save time, labor and money. They're *guaranteed* to do the same for you by Industrial Retaining Ring Company . . . originators of stacked open-type retaining rings. Industrial's specially designed base and tool are free with initial order.

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INDUSTRIAL RETAINING RING CO.
originators of Modern Dispensing
8 WEST SIDNEY AVENUE • MOUNT VERNON 8, NEW YORK

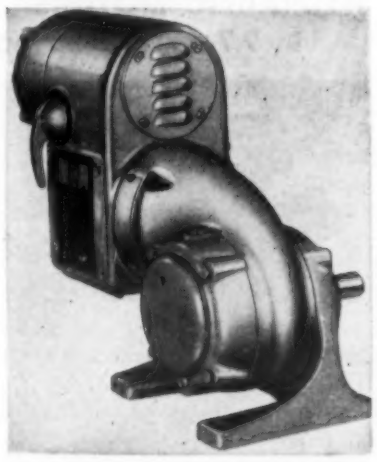
For more details circle NED-542 H3 on enclosed inquiry slip

ETCHING ATTACHMENT for engraving machine

Conversion of the Mico engraving machine to electric etching work is possible with an attachment offered in a kit consisting of power source with cables and switch, etching spindle assembly and spring-loaded stylus. Made with a replaceable tungsten tip, the attachment will mark hardened steel. Etching spindle replaces the engraving micrometer spindle assembly and the stylus replaces the conventional stylus. Motor is also removed from the pantograph arm. Power source provides three output ratings, selection depending upon hardness of material. Made by **Mico Instrument Co.**, 80-D Trowbridge St., Cambridge 38, Mass.

For more details circle NED-543 H3 on enclosed inquiry slip

RIGHT-ANGLE MOTOR DRIVE fractional horsepower type



Offered in ¼, ⅓, ½ and ¾-hp sizes with speed variations up to 10 to 1, type VA-GW Varidrive - Syncrogear has low variable speeds with a right-angle hook-up for such applications as conveyor belts. Full speed range is selected by turning control handle through an arc of 300 degrees. Because the variable speed transmission is of the V-belt type, speed changes as small as 1 rpm can be effected while the motor is operating. Construction features include automatic drive belt tensioner, asbestos protected windings and normalized castings. Made by **U. S. Electrical Motors Inc.**, Dept. NED, 200 E. Slauson Ave., Los Angeles 54, Calif.

For more details circle NED-544 H3 on enclosed inquiry slip

Aluminum, Magnesium & Bronze Castings

Wellman Bronze & Aluminum Co.—Production facilities for broad range of aluminum, magnesium and bronze alloy castings in sand, semipermanent and permanent mold form are described and illustrated in 20-page catalog No. 53. Also included are data on applications, characteristics of each alloy and information on laboratory and quality control operations.

For more details circle NED-545 H3 on enclosed inquiry slip

Hear HERE!

LOUDNESS REDUCED 50%*

Inside a Burgess-Manning Acousti-Booth

- The hushed interior of a Burgess-Manning Acousti-Booth provides a quiet, restful place to hear well.
- Light, sturdy construction for ease of moving . . . compact design.
- Doorless construction . . . light, airy, well ventilated.
- Wall and floor models.
- Suited to any noisy location.

** Based on studies by a prominent research organization.*

Write for Bulletin A-107

BURGESS-MANNING COMPANY
Architectural Products Division
5970-C Northwest Highway, Chicago 31, Illinois

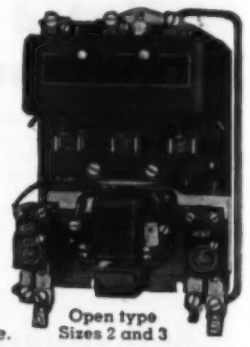
For more details circle NED-546 H3 on enclosed inquiry slip

NEW CLARK Type "CY"

AC MAGNETIC MOTOR STARTERS *now available in* EXPLOSION RESISTING ENCLOSURES

The sensational new CLARK Type "CY" motor starters are offered in a wide variety of types and enclosures for use in such industrial atmospheres as hazardous gas, dust or excessive humidity. Illustrated above, is the NEMA Type 7 Cast Iron Explosion Resisting Enclosure for conditions where such special protection is required.

CLARK Type "CY" starters, sizes 2 and 3, have an entirely new arc-quenching principle which greatly increases contact life, by a constant rotation of the arc on contact surfaces.



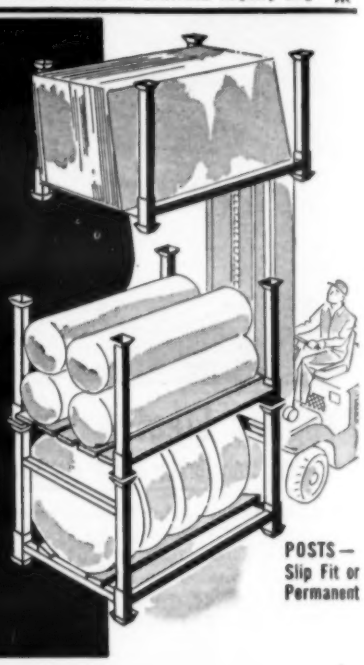
Open type Sizes 2 and 3

Write for descriptive literature.

THE CLARK CONTROLLER CO.
ENGINEERED ELECTRICAL CONTROL • 1146 EAST 152ND STREET, CLEVELAND 10, OHIO

For more details circle NED-547 H3 on enclosed inquiry slip

75% more storage in many areas using

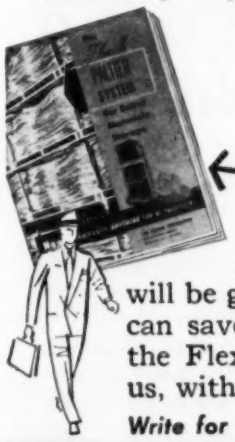


POSTS— Slip Fit or Permanent

Paltier
"TIERS OF RACKS"
PYRAMID RACKS
PATENTED

SAVE SPACE . . . and YOU SAVE DOLLARS!

PALTIER PYRAMID RACKS are storing as much as 75% and more crushable, bulky and irregular shaped items in the same storage area — in industry after industry. They save their cost in no time at all.



A Paltier User Says:

"We are now able, in one operation, to load and unload various colors or styles of asphalt or asbestos shingles while under previous systems it sometimes required movement of five to eight stacks of material to obtain the pallet where the correct item was stacked"

— a real time saver!

Ask Us!

A Paltier storage engineer will be glad to show you how you can save storage space, too, with the Flexible Paltier System. Ask us, without obligation.

Write for 16-page Catalog

THE PALTIER CORPORATION
1705 KENTUCKY ST.
MICHIGAN CITY, IND.

For more details circle NED-548 H3 on enclosed inquiry slip

NEW

Portable, Hydraulic "GUILLOTINE"

CUTS 1¼" WIRE ROPE!

Tremendous cutting power . . . 22½ tons thrust!

Light weight . . . only 45 lbs. net. Take the tool to the job. .

Positive blade retraction . . . will not jam.

Easy hand pump action.

ALSO AVAILABLE WITH

Electric or Compressed Air operated pump

Automatic, power-operated pump assemblies available that are also portable or may be permanently mounted for production application. Special high-power pump available for production cutting over 200 cuts per hour.

Write For Catalog. Dept. NED-8

MANCO MFG. CO.
BRADLEY, ILLINOIS

▲ For more details circle NED-549 H3 on enclosed inquiry slip ▲

Where in Your Plant Can You Use Brushes Like These to Cut Costs?

Write Today for MILL-ROSE Catalog

HIGH PRECISION INDUSTRIAL BRUSHES TWISTED IN WIRE

The MILL-ROSE Company 3985 EAST 59th STREET CLEVELAND 3, OHIO

▲ For more details circle NED-550 H3 on enclosed inquiry slip ▲

BEST DEFENSE AGAINST CORROSION

Start with

TYGORUST

"the no-prep vinyl primer"

- minimizes surface preparation
- brushes easily—sprays beautifully
- dries hard in 5-15 minutes
- covers up to 500-600 sq. ft./gal.
- goes under any type finish
- adheres to wet or dry rusted steel, to wood, to concrete, or to previously painted surfaces.

Finish with

TYGON "Series TP" PAINT

"the vinyl finish of maximum protection"

- easily applied by brush or spray
- fast drying and non-oxiding
- fully flexible and chip-resistant
- non-flammable when dry
- easy to clean and long lasting
- resists fumes and spillage of acid, alkalies, oils, greases and water.

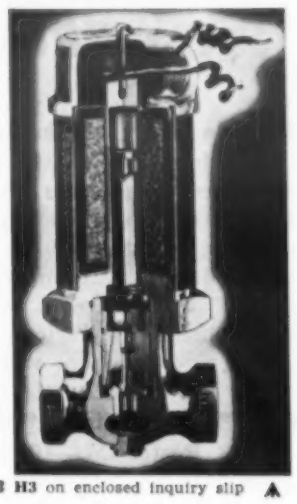
Write for full details—ask for Bulletin 720!

360 C

U. S. STONEWARE CO.
AKRON 9, OHIO

▲ For more details circle NED-551 H3 on enclosed inquiry slip ▲

STEAM VALVE
improved design prevents sticking



Sticking, a common cause of steam valve failures caused by expansion as a result of high temperatures combined with deposits of iron oxide, boiler compound, lime, etc., is prevented by improved design of this steam valve. Engineering principles incorporated in design now automatically compensate for normal steam valve expansion and deposits. Made by **Atkomatic Valve Co.,** Dept. 143, 545 Abbott St., Indianapolis 25, Ind.

▲ For more details circle NED-552 H3 on enclosed inquiry slip ▲

CONVEYOR TURNTABLES
will lock at any desired angle

For use with all sizes of Sage roller and gravity wheel conveyors, switch-type turntables have a built-in lock arrangement which will hold the rotating section at any desired angle. They are available in roller or wheel sections, and are mounted on large casters bearing on a circullar flat steel plate. They permit products to be diverted from the main line at any desired angle and in any direction. Made by **Sage Equipment Co.,** 28 Essex St., Buffalo 13, N. Y.

▲ For more details circle NED-553 H3 on enclosed inquiry slip ▲

LAMP DESTROYER
for fluorescent tube disposal

Solving the problem of what to do with burned-out fluorescent lamps, Flur-O-Lamp disposal unit grinds lamps to tiny pieces under water, and drops the waste either into a disposable cotton bag or perforated metal basket. It is not necessary to handle the glass after lamp has been placed in the machine. The standard unit is equipped with a ¼-hp 115-v 60-cycle motor, and operates on 7½ gallons of water. Made by **Laduby Co.,** Dept. Ed-600, P. O. Box 88, Branford, Conn.

▲ For more details circle NED-554 H3 on enclosed inquiry slip ▲

New **"PULL-GEAR"**
SPEED-REDUCING PULLEY
Increases Drill Press Capacity

NEW MODEL

Provides Correct Speed and Power to Drill Up to 1⅜" with ½ H.P. Motor

Amazing new internally geared speed reducer doubles drill press capacity. Greater power, greater efficiency, greater productivity.

Provides the correct speed and power for larger drilling, reaming, tapping and boring on light presses. Easily installed in five minutes. Adaptable to all type machines. Spindle speed range approx. 45 to 2000 RPM. Made in 3 motor shaft sizes: ½" - ⅝" - ¾". Write for literature.

Some Territories Open to Jobbers

THE PULL-GEAR CO.
4118 E. 8-Mile Rd., Detroit 34, Mich.

WRITE FOR LITERATURE

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WHICH ONE WOULD YOU CHOOSE?

If you don't know offhand, don't worry about it. Buy Dunham specialties and you're sure to get traps and valves that are "just right" for your system. Since Dunham makes the most complete quality line of Heating Specialties available, why waste time shopping around?

Just depend on Dunham for *all* your traps and valves—and save time as well as steam. For full details, WRITE FOR BULLETIN 1501-14.

DUNHAM

C. A. DUNHAM CO.
400 West Madison Street, Chicago 6, Illinois
HEATING SPECIALTIES

Quality first for fifty years

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25% SAVED!

Packaging costs were reduced by as much as one-fourth when the Fafnir Bearing Co. adopted the Stanley Steel Strapping System.

In almost every type of plant—with almost every type of product—substantial savings are being made in packaging and handling by this cost-cutting system. Put it to work for *you*. Call in the Stanley Packaging and Shipping Engineer. He'll install the Stanley Steel Strapping System on a 30-day trial. There's no obligation. Just mail the coupon below. The Stanley Works, Steel Strapping Division, New Britain, Conn. Branch Offices or Representatives in 32 principal cities.

STANLEY Reg. U.S. Pat. Off. **STEEL STRAPPING SYSTEM***

*A MAN thoroughly experienced in steel strapping applications—the Stanley Packaging and Shipping Engineer.

A METHOD adaptable to any requirement—the Stanley Steel Strapping System, with representatives in 32 principal cities.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

THE STANLEY WORKS, Steel Strapping Division
2098 Lake St., New Britain, Conn.

☐ Yes — the 30-day trial interests me. Have the Stanley Packaging and Shipping Engineer call.

☐ Send me complete information about the Stanley Steel Strapping System.

(Please write name and address in margin of page)

▲ For more details circle NED-557 H3 on enclosed inquiry slip ▲

IS RUST EATING AWAY YOUR PARTS INVENTORY?

Then you Need MARVELLUM VPI® WRAP

Paper coated with a Volatile Corrosion Inhibitor

Avoid the damages of destructive rust, the loss of time and money spent in refinishing inventory parts, the mess and bother of slushing and cleaning. Wrap your parts — or merely line your bins — with economical Marvellum VPI.

VPI is a paper coated with a new chemical which slowly vaporizes, forming an invisible protective film that prevents corrosion. Used as a wrap it keeps rust away for years. Used as a liner it gives you many months of trouble-free storage. Developed during the war as a protective wrap for shipment of steel and aluminum parts, many companies are also using it to protect their inventories or as a lining for tote boxes on the production floor.

Marvellum VPI is available in sheets, envelopes or special containers. Marvellum has complete facilities under one roof for designing, producing and coating VPI Wraps. Also makers of a wide range of other barrier materials to meet your needs for product protection. Distributors in all major cities.

Get all the facts. Write for FREE BOOKLET.

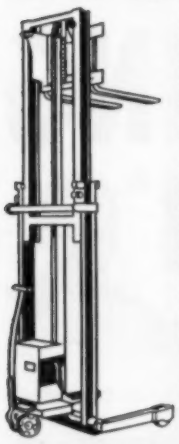
The **Marvellum Company**
34 APPLETON STREET HOLYOKE, MASS.
First and Foremost in VPI Protection

For more details circle NED-558 H3 on enclosed inquiry slip

NOW small warehouses can stack ceiling-high

with the RAYMOND PALLET STACKER

Even the smallest warehouse can store goods ceiling-high with the new RAYMOND Pallet Stacker! This hydraulic truck was designed expressly for firms that have no need for larger, more costly tiering trucks.



The RAYMOND Pallet Stacker handles loads weighing up to 2,000 lbs.—stacks them as high as 115". It's a smooth-rolling highly maneuverable tiering truck that actually right-angle stacks from aisles less than 6 ft. wide.

The Pallet Stacker is equipped with a ¾ HP motor-driven pump that plugs into any 110 V socket. The pump supplies power for raising loads quickly, easily—elevating and lowering controls are conveniently located near the power unit. The hand lowering valve gives you absolute control over the speed of descent.

SEND FOR BULLETIN Get full details on RAYMOND'S new Pallet Stacker — mail coupon for Bulletin 270X today.

The RAYMOND CORPORATION
4118 Madison St., Greene, N.Y.

Please send me Bulletin 270X, describing your new Pallet Stacker.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

For more details circle NED-559 H3 on enclosed inquiry slip

New Literature and Catalogs

Flexible Shaft Machines & Accessories

Foredom Electric Co.—Describing flexible shaft machines, handpieces and accessories, 8-page illustrated catalog 190 contains full specifications and ordering information for each item. Machines are of 1/10 and 1/15-hp with a variety of mounting styles. Full range of points for all small grinding and polishing operations are featured.

For more details circle NED-560 H3 on enclosed inquiry slip

Pipe & Pipe Fabrication

L. B. Foster Co.—16-page illustrated catalog 575C gives tabular data covering description, wall thickness and weight for all pipe from schedule 20 through 160, and also for standard, extra heavy, Spiralweld and large OD type in all wall thicknesses and many other types. Pipe fabrication facilities for structural uses are also described.

For more details circle NED-561 H3 on enclosed inquiry slip

Densitometer Comparator

Baird Associates, Inc.—Designed for convenient measurement of line spectra on photographic plates, the Baird densitometer comparator has sufficient sensitivity to obtain 0.003 density units stability and reproducibility at density 2.0 with scanned area 2000 microns or greater. Three to six lines a minute can be read without operator strain. Full illustrated data are given in 8-page technical bulletin 39.

For more details circle NED-562 H3 on enclosed inquiry slip

Parts Handling & Storage Equipment

Bathey Mfg. Co.—Small parts handling equipment, including work benches with built-in compartments for holding parts for assembly, tote boxes and storage racks and pans in a variety of sizes is described in 14-page illustrated fact file, complete with prices and ordering information. Construction of units is heavy gage steel; basic design is of the multiple open compartment type.

For more details circle NED-563 H3 on enclosed inquiry slip

506 Pages of Valve Information

Featuring a 24-page valve selector guide and over 100 pages of reference data, new 506-page catalog describes a complete line of steel, iron and bronze valves. It also includes lubricating devices, boiler mountings, cocks and other products. The selector guide groups valves according to pressure classification, making it possible to find specifications, reference data and code requirements for any valve in a matter of seconds. Requests on company letterhead from Lunkenheimer Co., P. O. Box 360-KK, Annex Station, Cincinnati 14, O.

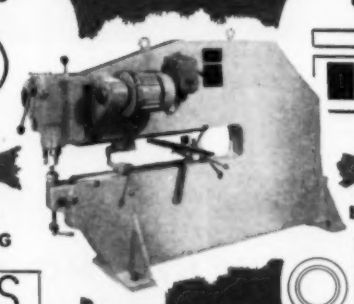
For more details circle NED-564 H3 on enclosed inquiry slip

PULLMAX Does all These Operations

SAVE TIME, LABOR & EXPENSIVE DIES

CIRCLE CUTTING

STRAIGHT CUTTING



SLOT CUTTING

BEADING

CHOICE OF 9 SIZES TO FIT YOUR REQUIREMENTS

FOLDING

From 16 ga. up to 11/32" capacity.

LOUVERS

MODERNIZE YOUR SHOP WITH PULLMAX
WRITE FOR LITERATURE AND PRICES

BACKED BY NATIONAL SALES AND SERVICE

AMERICAN PULLMAX COMPANY, INC.
2457 NORTH SHEFFIELD AVENUE · CHICAGO 14, ILLINOIS

For more details circle NED-565 H3 on enclosed inquiry slip

ECONOMIZE Morton-WISE — SPECIFY AND USE **Morton**

STANDARD FIXTURE CLAMPS AND COMPONENTS . . . . . .

A SAVING OF $62.35 ACHIEVED ON THIS JOB

3 REST BUTTONS COST a leading manufacturer $67.00 to make in his own plant. Now, MORTON-WISE, he buys MORTON RB-3 for $1.55 each.

Greater Savings

Achieved on Jig Feet, Rest Pads and other MORTON Standards. Largest selection of types and sizes of Fixture Clamps and Fixture Details in the Industry. Complete Assemblies or Individual Parts. Highest quality of workmanship and materials maintained. Immediate delivery.

★ STANDARDS can easily be modified to suit your special application.

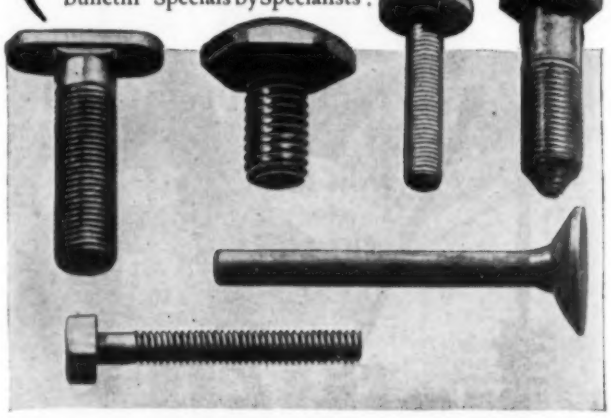
Write for: Instructive, Illustrative Catalog. Contains full size tracing templates of each product.

MORTON MACHINE WORKS
2421 WOLCOTT ST. • DETROIT 20, MICH.

For more details circle NED-566 H3 on enclosed inquiry slip

Have Your Unusual Parts and Fasteners made by *fast economical forging* . . .

Have you tried *forging* for your specially designed fastener-type parts? Perhaps your items can be produced to advantage by Cleveland's Kaufman Process—by either single or double extrusion. Accurate as to dimensional detail; heat treated as required. And they're sure to be *stronger* by this forging method. Write for bulletin "Specials by Specialists".



CLEVELAND *Top Quality* **FASTENERS**
The Cleveland Cap Screw Company
2917 East 79th Street Cleveland 4, Ohio

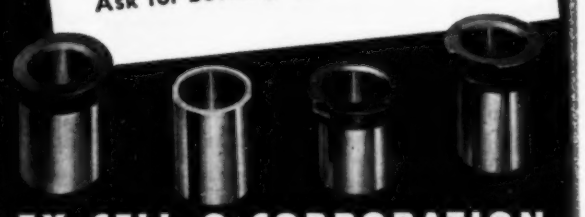
For more details circle NED-567 H3 on enclosed inquiry slip

XLO — EX-CELL-O for PRECISION

Ex-Cell-O Drill Jig Bushings Have All These Features . . .

- Selected premium grade tool steel.
- Precision ground inside and out and under the head.
- Concentricity assured by grinding on arbors after the holes are finished.
- Hardened to 62-64 Rockwell "C."
- Uniformity of material, dimensions, finish, and hardness.
- Prompt delivery from stocks of standard sizes in Detroit, New York, Los Angeles, and Toronto.
- Largest bushing users in the country are Ex-Cell-O customers.

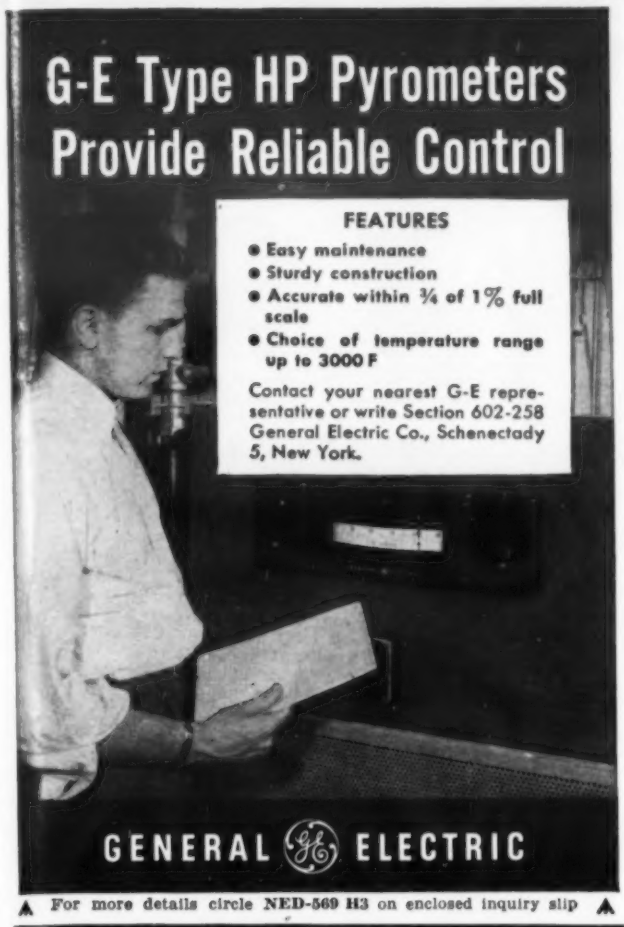
Ask for Bushing Catalog No. 35371.



EX-CELL-O CORPORATION
53-17 DETROIT 32, MICHIGAN

For more details circle NED-568 H3 on enclosed inquiry slip

G-E Type HP Pyrometers Provide Reliable Control



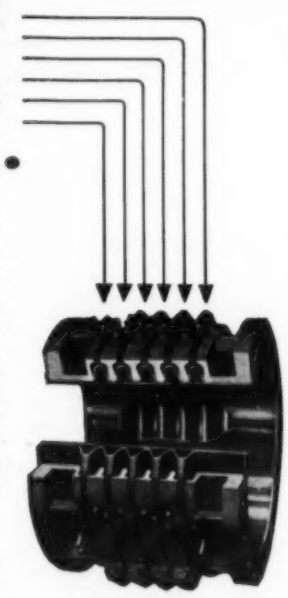
FEATURES
- Easy maintenance
- Sturdy construction
- Accurate within ¾ of 1% full scale
- Choice of temperature range up to 3000 F

Contact your nearest G-E representative or write Section 602-258 General Electric Co., Schenectady 5, New York.

GENERAL ELECTRIC

For more details circle NED-569 H3 on enclosed inquiry slip

This ZALLEA Feature...



... on this Duo-Equalizing Stainless Steel Expansion Joint assures that all corrugations move simultaneously during expansion and contraction, and that no corrugation can be compressed or extended more than the proportionate amount for which it was designed. It assures you of long and trouble free expansion joint life.

For further information on this and other Zallea Expansion Joints write today for free Bulletin No. 351. Zallea Brothers, 818 Locust Street, Wilmington 99, Delaware.

Zallea

For more details circle NED-570 H3 on enclosed inquiry slip

UNITED CARAVAN AXLES

feature AUTOMOTIVE STEERING

Only CARAVAN axles assure dependable roadability on both highway and rough ground. These job-engineered axles are available in 2-wheel units and 4-wheel assemblies featuring automotive steering and controlled camber, tow-in and caster for positive trail at high speeds.

Stability for the heaviest loads is provided by massive center steering arm, extra-heavy center arm stop blocks and heavy-duty steering knuckle. Wide inside wheel turning angle assures maximum maneuverability and eliminates jack-knifing.

Write today for new Bulletin No. 53 for further information.

1124-UM

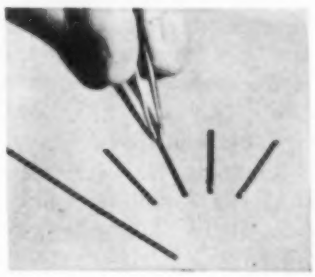
THE UNITED MANUFACTURING CO.

810 W. Interstate Street, Bedford, Ohio

For more details circle NED-571 H3 on enclosed inquiry slip

New Processes and Materials

SMALL SIZE TUBING
in sizes from ⅛ to 1½ in. OD



Commercially pure titanium tubing in sizes from ⅛ to 1½ in. OD, with wall thickness from 0.004 to 0.187-in. in both seamless and Weldrawn grades can now be obtained for use in the chemical processing, pharmaceutical and aircraft industries. Outside diameters as small as 0.0455-in. with wall thickness of 0.00225-in. have been drawn. To avoid embrittlement, all thin-wall titanium tubing is annealed. Made by **Superior Tube Co.**, 1525 Germantown Ave., Norristown, Pa.

For more details circle NED-572 H3 on enclosed inquiry slip

BRUSH CLEANER
solvent type of nonflammable

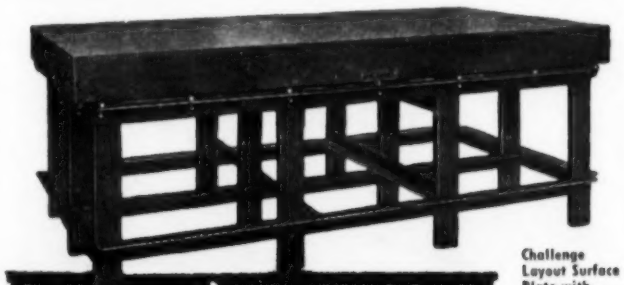
For all types of brushes and both natural and synthetic bristles, solvent type brush cleaner is applicable with oil, water and rubber base paints. Brushes to be cleaned are soaked in the solvent and then rinsed in water. Compound is nonodorous and can be reused after storage. Made by **M & H Laboratories**, Dept. H, 2705 Archer Ave., Chicago 8, Ill.

For more details circle NED-573 H3 on enclosed inquiry slip

SILICONE ROOF COATING
does not check, crack or sag

Silicones combined with long-fiber Canadian asbestos, imported asphalt and nonevaporating waterproofing oils give Siliconed Rufferseal roof coating durability. Product saturates and preserves roofing felts and remains elastic and waterproof for a long period. Other improvements over standard Rufferseal are greater resistance to oxidation caused by hot sun rays and industrial fumes, plus freedom from checking, cracking and sagging. Product is applied without heating by brush or spray methods. It is offered in 5-gal cans and 30 and 55-gal drums. Made by **Monroe Co.**, Dept. M-1, 10703 Quebec Ave., Cleveland 6, O.

For more details circle NED-574 H3 on enclosed inquiry slip



Challenge Layout Surface Plate with smooth, highly accurate surface.

CHECK THESE ADVANTAGES OF CHALLENGE precision LAYOUT SURFACE PLATES

Challenge Layout Surface Plate with "Tee-Slots".

- Smooth accurate surfaces for layout, inspection or assembly.
- Built of fine-grade, special analysis semi-steel.
- Sixteen standard sizes, six inches thick — other sizes to order.
- Available with "Tee-Slots", or with grooving, scoring or machining for checking and assembly.
- Plates can be grooved and keyed so that two or more can be assembled into one large complete unit.

SEND FOR CATALOG Write today for catalog which includes complete information and prices on Challenge Surface Plates.

Challenge TRADE-MARK

THE CHALLENGE MACHINERY COMPANY
Office, Factories and Show Room: Grand Haven, Michigan

732

For more details circle NED-575 H3 on enclosed inquiry slip

For the SMALLER HOLES the MORE ACCURATE HOLES

HAMILTON VARIMATIC® DRILLING MACHINE

SUPER SENSITIVE VARIABLE SPEED

DRILLING CAPACITY .004" to 0.3125" in all drillable materials.

SPINDLE SPEEDS 840 to 9300 R.P.M. (Infinitely variable.)

CLEARANCE Drills to the center of 10"

MAINTAINS PRODUCTION REDUCES SCRAP

The Hamilton Varimatic is *designed and built* for the production, in volume, of extra accurate holes.

Write for FREE Bulletin D-5311.

THE Hamilton TOOL COMPANY
901 HANOVER STREET • HAMILTON, OHIO • U • S • A

For more details circle NED-576 H3 on enclosed inquiry slip

which SOLID TIRE for your product?

Monarch cushion tires of tough, wear-resisting stock have high capacity for absorbing shock and cushioning fragile loads over rough surfaces; excellent for high lift stability.

Monarch industrial tires are supplied on wheels by a majority of wheel and hand truck manufacturers.

For applications requiring extra traction, this tire is the first in its field.

Designed for low ton mile cost, this tire is particularly efficient on high lifts where sway is a factor.

The groove tire, used primarily on large industrial trucks and trailers, rounds out the complete Monarch line of solid industrial tires.

MONARCH makes the complete line of solid industrial tires

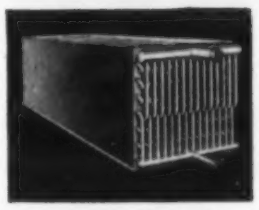
THE MONARCH RUBBER COMPANY
501 Lincoln Park
Hartville, Ohio

For more details circle NED-577 H3 on enclosed inquiry slip

Tube Talk THE "HOW-TO" COLUMN

PROBLEM: To find tubing of high and uniform quality for heat exchanger coils used in industrial coolers made by Marlo Coil Company. Coils handle ammonia and brine, but—most important—they are subject to very severe fabricating operations.

SOLUTION: Superior Carbon Steel Tubing (Analysis MT1015) for coils. ⅝" O.D. x .035" wall.



RESULT: Since adopting Superior tubing, quality has been consistently high. Size is uniform, tolerance is close, tubing is free from defects after bending and welding.

Suggestion—Write for information and literature today.

SUPERIOR TUBE COMPANY
2018 Germantown Ave., Norristown, Pa.

For more details circle NED-578 H3 on enclosed inquiry slip

ADHERES to almost any metal
INVISIBLE on all of them

DULAC CLEAR UNIVERSAL LACQUER #462—
Here is a *single* water-white lacquer with remarkable adhesion to practically *all* metals. Withstands salt spray and weatherometer tests for exceptionally long periods. Resists heat, cold, weather, stain, perspiration. Dries out of dust in 5 to 10 minutes . . . hard in one hour. Applied by spray or dip.

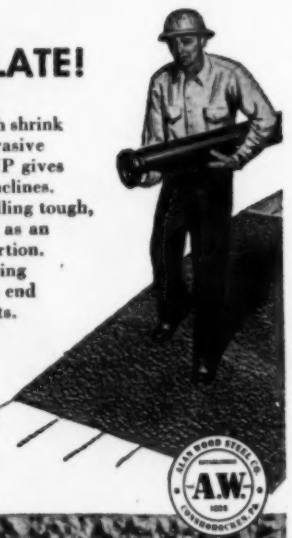
For complete information, write for Technical Data Bulletin #110.

PIONEERS IN PROTECTION

MAAS & WALDSTEIN CO. 2121 McCARTER HIGHWAY NEWARK 4, NEW JERSEY
Midwest Div.: 1658 Carroll Ave., Chicago 12, Ill. • Pacific Coast Div.: Smith-Davis Co., 10751 Venice Blvd., Los Angeles 34, Cal.
MANUFACTURERS OF INDUSTRIAL FINISHES

For more details circle NED-579 H3 on enclosed inquiry slip

REDUCED INSURANCE PREMIUMS PAY FOR THIS SAFETY FLOOR PLATE!



Accident rates *and* insurance rates both shrink when you install A. W. ALGRIP Abrasive Rolled Steel Floor Plate. For ALGRIP gives non-skid foot safety—even on steep inclines. We make this unique floor plate by rolling tough, abrasive grain densely and uniformly as an integral part of steel plate's upper portion. *Result:* Hundreds of tiny, hard-gripping safety brakes in every footstep put an end to costly, dangerous slipping accidents. And your consequent savings on insurance premiums pay for your ALGRIP installation.
Get the full story of savings from safety today. Send for the facts about tough, fire-and-breakage-resistant, non-slip ALGRIP. The handy coupon brings you our new Booklet.

A.W. ALGRIP *Abrasive Rolled Steel Floor Plate*
ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

I want to know more about savings from safety. Send me your ALGRIP booklet AL-6.
*Name*_____
*Company*_____
*Address*_____
*City*_____ *Zone*____ *State*____

For more details circle NED-580 H3 on enclosed inquiry slip

New Literature & Catalogs

Overload Signals & Weight Indicators

W. C. Dillon & Co.—Data sheets on audio/visual overload protectors for hoists and on indicators for on-the-job weighing are now available. Setting of the independently powered overload protector can be anywhere between 500 and 10,000 lb, while the weight indicators are accurate to one division of scale and have capacities ranging from 0-250 to 0-2500 lb. Data are fully illustrated, and include applications.

For more details circle NED-581 H3 on enclosed inquiry slip

Fire Extinguishers

Randolph Laboratories, Inc.—16-page catalog R-2653 is devoted to a line of carbon dioxide fire extinguishers. Units described and pictured are all UL approved. Portable models are available in capacities from 2½ to 20 lb, and wheeled mounted models in 26, 50 and 100-lb sizes. Descriptions are also given of automatic fire extinguishing systems and soda acid and carbon tetrachloride units.

For more details circle NED-582 H3 on enclosed inquiry slip

Pressure Sensitive Tapes

Information on hundreds of pressure sensitive tapes by leading manufacturers included in a 14-page tape number dictionary is of help in determining a suitable type for any application. Composition of each tape is described. For your copy send 25c to Polyken Industrial Tape, 222 W. Adams St., Chicago 6, Ill.

For more details circle NED-583 H3 on enclosed inquiry slip

Miniature Instrument Motors

Servomechanisms, Inc.—20-page illustrated catalog is descriptive of new line of miniaturized hysteresis synchronous, control and damped control instrument motors. Typical uses include analog computers, aircraft fire control systems, differential analyzers, remote indicating systems, telemetering devices and control of industrial machinery.

For more details circle NED-584 H3 on enclosed inquiry slip

Wire Containers & Pallets

Pittsburgh Steel Products Co.—Generously illustrated to show specific uses for heavy wire Cargotainers and pallets in wide variety of industries, 8-page booklet presents authentic case histories which cite cost-saving advantages. Technical data on both the new Clearview and Stripbase model Cargotainers for materials handling are included.

For more details circle NED-585 H3 on enclosed inquiry slip

Electric Furnaces

L & L Mfg. Co.—Thirty-seven models of Dyna-Kilns and Dyna-Kiln electric furnaces are described and illustrated in 16-page illustrated catalog and parts manual. Kiln and furnace sizes, temperature ratings and other details for both front and top loading models are covered.

For more details circle NED-586 H3 on enclosed inquiry slip

BIN STUCK LATELY?

Turn to a CLEVELAND air vibrator. It's surprising the variety of materials it will move through your bins, hoppers and other handling devices. Economical and efficient to use for *anything* . . . gravel, ore, chemicals . . . inclined to arch, bridge or stick.

Standard metallic impact and air-cushioned, quiet types available in 29 different mountings.

COMPLETE LITERATURE ON REQUEST
THE CLEVELAND VIBRATOR CO.
2744 Clinton Avenue • Cleveland 13, Ohio

For more details circle NED-587 H3 on enclosed inquiry slip

CESCO RIGHT... before your Eyes!

NEW!

No. 401-7F with Stationary Lens Holder — No. 401-2F with Lift-Front Lens Holder

FIBER GLASS WELDING HELMETS

• Not affected by heat or moisture. Won't warp or buckle. Moulded under great pressure into a strong, tough one-piece shell with high heat insulating qualities.

CESCO Fiber Glass Welding Helmets are light in weight, have formfitting headgear, easily adjusted leather sweatband. They're—"*Right... before your Eyes.*"

Send TODAY for CESCO literature

CHICAGO EYE SHIELD COMPANY • 2322 Warren Blvd. • Chicago 12, Ill.
CESCO FOR SAFETY
OFFICES IN: Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Detroit, East Orange, Houston, Kansas City, Knoxville, Little Rock, Los Angeles, Mexico City, D. F., Milwaukee, Montreal, Philadelphia, Pittsburgh, Salt Lake City, San Francisco, Spokane, St. Louis, St. Paul, Toledo, Tulsa

For more details circle NED-588 H3 on enclosed inquiry slip

MODERN TIME AND COST SAVERS BUILT BY... Standard GRAVITY & POWER CONVEYORS

LIFT OR LOWER—FLOOR TO FLOOR WITH A

STANDARD INCLINEBELT

Move boxes, cases, cartons, sacks or bundles from basement to first floor, or any floor to floor — continuously with the Standard Inclinebelt. Compact — simple to install — minimum maintenance and attention. Lifts or lowers 10 to 20 lbs. of live load per ft.; floor elevations of 8 ft. to 14 ft. 6 inches inclusive; two belt widths to handle commodities 15½ inches to 25½ inches wide. Electric motor operated. Write for INCLINEBELT Bulletin — address Dept. NED-83

STANDARD CONVEYOR COMPANY
General Offices: North St. Paul 9, Minn.
Sales and Service in Principal Cities

For more details circle NED-589 H3 on enclosed inquiry slip

Chicago MOUNTED Wheels

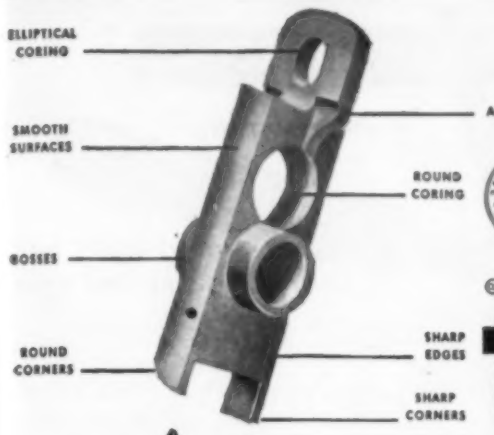
...now even better with **79E BOND**

Buy Chicago Mounted Wheels—bonded with 79E Bond—and you'll never use any other!

79E—a tough new bond exclusive with Chicago Wheel—is the sensation of the industry . . . it does a BETTER grinding, burring, and finishing job FASTER. A size and shape for every use. Deliveries are excellent—Order today.

CHICAGO WHEEL & Mfg. Co.
Dept. NED • 1101 West Monroe Street, Chicago 7

For more details circle NED-590 H3 on enclosed inquiry slip



MICROCAST PRECISION CASTINGS PROCESS

unlimited design possibilities

The Microcast Process of precision investment casting opens new fields of design to the product development engineer. Tough, virtually non-machineable high-heat metals and alloys can now be incorporated economically into your product's design through the Microcast Process. Design for little or no machining—for better parts at less cost—for longer life, and for functional improvements from the use of better metals and alloys. Write for booklet on Microcast—Also new color movie available without charge.

MICROCAST DIVISION | **Austenal Laboratories, Inc.**
224 East 39th Street, New York 16, New York
7001 South Chicago Ave., Chicago 37

microcast

For more details circle NED-591 H3 on enclosed inquiry slip

AMERICAN AIRLINES uses the MULTISTAMP Stencil Duplicator for

LOT LABELLING AIR FREIGHT

Fast, accurate lot labelling for shipping . . storing. Print direct . . 1000 or more clear, sharp copies without re-inking. Prints practically anywhere . . postcards, tags, labels, boxes, cartons, packages, menus, forms, letters . . paper, cloth, wood. Just type, write, trace or draw on inexpensive stencil . . snap it on duplicator . . and print—like using a rubberstamp. New pre-die-cut "FORM-CUT" stencil prints shipping form and identification data in one operation.

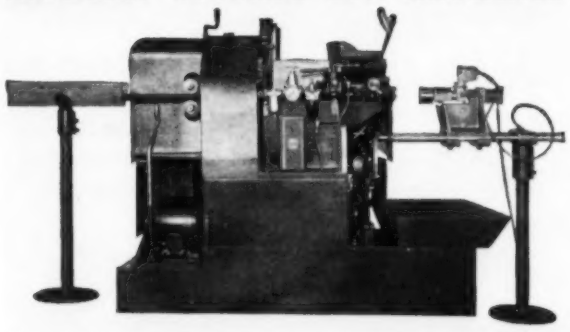
THE ORIGINAL HAND STAMP STENCIL DUPLICATOR

Portable . . non-mechanical . . of non-corrosive metal . . replaceable ink pads. 8 complete outfits: $9.50 to $99.50, including supplies (f.o.b. factory). Write for literature or see your office or shipping room supply dealer.

OVER 30 YEARS **MULTISTAMP** STENCIL DUPLICATOR ®
MANUFACTURED ONLY BY THE MULTISTAMP CO. NORFOLK, VIRGINIA

For more details circle NED-592 H3 on enclosed inquiry slip

MODERN CUTTING-OFF MACHINE



Cuts off longer pieces than regular automatic machine — *any length you want.* FAST cutting and chamfering of tubing pipe, shafting. Check the following figures:

½" Tubing Cuts and Chamfers both outside edges of ½" .030 wall tubing, 5" lengths, every 2.5 seconds

1¼" Cold Rolled Cuts and Chamfers both ends, 20" long, at rate of 1 every 20 seconds.

1" Tubing Cuts and Chamfers both outside edges, pieces 3" long. One every 3 seconds.

4" THREADED STUDS

Modern Automatic Cutting-Off Machines available in 4 sizes, handling work up to 6¾" O.D.

WRITE FOR CATALOG

Cut and chamfered at one time—in 8 sec.—from 10 ft. length of stock already threaded (¾" U. S. Standard.) Clean cut. Clean chamfer. Nuts start easily, with no extra finishing required.

MODERN MACHINE TOOL CO.
JACKSON MICHIGAN

For more details circle NED-593 H3 on enclosed inquiry slip

New Processes & Materials

CODING MARKERS
designed for small gage wires

Available in over 1000 codes including ASA and NEMA specifications, E-Z Code small-gage wire markers are made of tough fabric coated with pressure-sensitive adhesive. They are ¾-in. long, and are center die cut and mounted on 2 x 10-in. backing card. Special tab arrangement permits any code to be stripped from the card without disturbing the remainder, eliminating spoilage and waste. Small numerals make wire identification fast and positive. Complete code can be read without turning wire. Made by **Western Lithograph Co.**, Westline Products Div., 604 E. Second St., Los Angeles 54, Calif.

For more details circle NED-594 H3 on enclosed inquiry slip

MAGNESIUM ALLOY
ingot meets die casting needs

Dowmetal AZ91B, a magnesium alloy, is available in ingot form to meet the needs of the commercial magnesium die casting industry. Alloy contains beryllium additions for low melt loss and high efficiency. Made by **Dow Chemical Co.**, Jefferson Ave., Midland, Mich.

For more details circle NED-595 H3 on enclosed inquiry slip

ADHESIVE PANEL SEALER
can be stripped off and reapplied

Adaptable for gasketing or sealing applications as in side panel joints, prefabricated metal buildings, air conditioning and ventilating installations, EC-1202 black synthetic rubber sealer is weatherproof and water-tight. Fabric-reinforced ribbon sealer is applied by pressing to one surface before riveting, screwing or bolting second surface to the first. Adhesion is such that ribbon will stay in place on vertical or overhead surfaces during assembly work. It can be stripped off and reapplied. Product does not stretch or sag, is nonshrinking, contains no solvent and is not a fire hazard. It comes in packaged rolls in 1/32 and 1/16-in. thicknesses, in seven widths from ¼ to 2 in. and 100 and 200-ft lengths. Made by **Minnesota Mining & Mfg. Co.**, Adhesives & Coatings Div., Dept. NED, 423 Piquette Ave., Detroit 2, Mich.

For more details circle NED-596 H3 on enclosed inquiry slip

PUMPING JOB COMING UP?
Then This Is Important—READ IT!

We're offering you a copy of our *new* Bulletin 17-A on our complete line of Gear Pumps.

In it we have done our best—by cut-away drawings, tables, flow sectionals, installation photos, verified data—to give you the inside story on why they can handle, with high efficiency

GRAPE JUICE	FUEL OILS	RAYON SOLUTION	ASPHALT
COAL TAR	SOUP	TOMATO JUICE	LINSEED OIL
MOLASSES	WAX	BENZINE	DOPES
KEROSENE	CATSUP	PAINT	OTHERS

Basically, these pumps can be made to handle materials with viscosities from 30 to 10,000,000 S.S.U., to give capacities from 1 gph to 1000 gpm (depending on material), to pump against back pressures to 3500 psi.

You should *want* a copy of 17-A. You can get one by writing to us at the address below.

SCHUTTE AND KOERTING CO.
28 State Road, Cornwells Heights, Bucks County, Pa.

For more details circle NED-597 H3 on enclosed inquiry slip

REMEMBER THE NAME . . . Rubyfluid
the easy-to-use Soldering Flux for neat, strong unions.

Use Rubyfluid Flux—liquid or paste—to get neat, strong unions speedily and easily. Rubyfluid is a special fast acting formula, wets out freely, is free from harmful and objectionable fumes, economical to use. Try it—send $1 for special offer—1 pt. liquid, ½ lb. paste flux and helpful booklet.

For Stainless Steel use *Ruby's Stainless Steel Flux*, perfected for that metal.

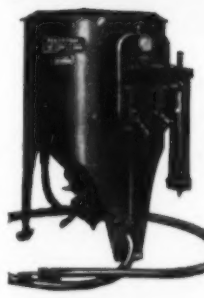
RUBY CHEMICAL CO.
72 S. McDowell Street Columbus 8, Ohio

Rubyfluid

For more details circle NED-598 H3 on enclosed inquiry slip

Here's how Pangborn
Solves these Problems
with this modern equipment

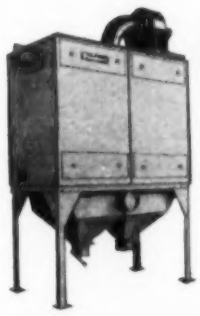
BLAST CLEANING!



Blast Cleaning Cabinet quickly and easily cleans metal parts of rust, grime, dirt, paint, etc. Produces a clean, smooth surface on pieces up to 60" x 36". Models available from $519.00 and up.

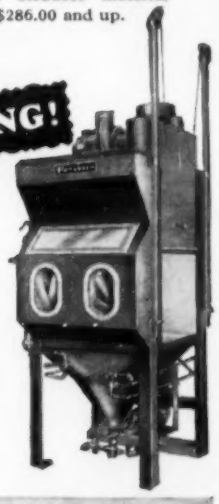
Blast Cleaning Machine not only removes rust, dirt, scale, etc., but is ideal for maintenance and many other uses. Cleans large objects such as bridges, structural work, tanks before painting. Six sizes, portable or stationary, from $188.00 and up.

DUST COLLECTING!



Unit Dust Collector stops dust at its source, minimizes machine wear and tear, reduces housekeeping and general maintenance costs. Solves many grinding and polishing nuisances. Reduces material losses. Models from $286.00 and up.

PRECISION FINISHING!



Hydro-Finish Cabinet uses liquid blast, eliminating dust, and reduces costly hand polishing, cleaning and finishing of molds, dies, tools, etc. Removes scale, discoloration and directional grinding lines, prepares surfaces for plating and coating. Holds tolerances to .0001". Models from $1410.00 and up.

LOOK TO PANGBORN FOR THE LATEST DEVELOPMENTS IN BLAST CLEANING AND DUST CONTROL EQUIPMENT

Pangborn
MAIL COUPON for full details

(Check for more information)
☐ Blast Cleaning Cabinets
☐ Blast Cleaning Machines
☐ Unit Dust Collectors
☐ Hydro-Finish Cabinets

PANGBORN CORP., 2400 Pangborn Blvd., Hagerstown, Md.
Gentlemen: Please send me more information on the equipment I've checked at the left.
Name .....
Company .....
Address .....
City ..... Zone .... State .....

For more details circle NED-599 H3 on enclosed inquiry slip

Get Wide Selection!

Whether you need open, drawout, or stationary enclosed units... with remote or local switching... there's an Allis-Chalmers low voltage air breaker for the job. These breakers are insensitive to shock and vibration under normal conditions and can be applied in any location.

Ratings are available to meet all low voltage applications. Interrupting capacities 25,000 and 50,000 amperes; continuous currents 35 to 1600 amperes; maximum voltage 600 volts, 25 to 60 cycles.

Get complete specifications from an Allis-Chalmers district office, or write Allis-Chalmers, Milwaukee 1, Wis.

A-4121

ALLIS-CHALMERS

▲ For more details circle **NED-601 H3** on enclosed inquiry slip ▲

New Hunter Industrial Fan

POWERFUL, LOW-COST VENTILATION

FEATURES:

- **Streamlined orifice for efficient air entrance**
- **Aluminum alloy blades—non-rusting, non-crystallizing, non-overloading**
- **"Gull Wing Design" airfoil blades for strength and uniform pressure**
- **Effective up to ½ in. static pressure**
- **Heavy continuous-duty motor**
- **Permanently lubricated and sealed for life**
- **Direct-drive for reduced maintenance costs**
- **Automatic shutters to fit all fan sizes**

Hunter

CLIP AND MAIL NOW FOR COMPLETE DATA

Hunter Fan & Ventilating Company
373 S. Front St., Memphis 2, Tenn.
Send complete information on Hunter Industrial Fan to:

Name_____

Address_____

*For specific recommendations, advise us of your ventilation problem.

▲ For more details circle **NED-602 H3** on enclosed inquiry slip ▲

New Literature & Catalogs

Machine Tool Accessories

Chicago Tool & Engineering Co.—Production, angle, drill press, and swivel machine vises are among the machine attachments described in an 8-page illustrated catalog No. 200. Also included are rotary tables, milling attachments, adjustable angle plates and hand vises. Photographs and specifications are given for each product shown.

▲ For more details circle **NED-603 H3** on enclosed inquiry slip ▲

Wire Rope Picture Story

Macwhyte Co.—Each page of 56-page booklet 5312 is occupied by a photograph and a caption taking the reader on a picture tour of the manufacturing processes involved in making wire rope. Starting with wire rods, the phases covered include metallurgical checking, wire drawing and testing, rope making, slings, aircraft cable and cable assemblies.

▲ For more details circle **NED-604 H3** on enclosed inquiry slip ▲

Clamps, Holders & Supports

Fisher Scientific Co.—Designed for industrial laboratory use and including both special and standard types, line of clamps, holders and supports is described and illustrated in 24-page bulletin FS-228. Units are heavily nickel plated, and are fabricated from an alloy having a tensile strength of 47,000 psi. Prices and application photographs are given.

▲ For more details circle **NED-605 H3** on enclosed inquiry slip ▲

Materials Handling System

Thomas Truck & Caster Co. —Units making up a complete materials handling system are described in 8-page illustrated catalog JT-53. Items described include a line of platform trucks with lifting and moving units and trailer hitch lift units. Light, intermediate and heavy-duty types are included in the line.

▲ For more details circle **NED-606 H3** on enclosed inquiry slip ▲

Carbide Tools

Wendt-Sonis Co.—A complete line of carbide tipped reamers, drills, milling cutters, tool bits and other tools is described and illustrated in 82-page catalog 53. Grade recommendations and machining feeds and speeds are but some of the reference data included, and specifications, drawings, tool dimension tables and resharpening procedures are fully treated.

▲ For more details circle **NED-607 H3** on enclosed inquiry slip ▲

Contract Precision

Research Development Manufacture, Inc.—Using Swiss automatics, precision lathes and pinion cutting machines, this company specializes in the contract manufacture of a wide variety of close-tolerance components. Four-page illustrated brochure gives details of types of work undertaken, typical manufacturing tolerances observed and facilities.

▲ For more details circle **NED-608 H3** on enclosed inquiry slip ▲

protect that air supply

ON AIR-CLAMPING DEVICES — AIR LINES, HOLDING CIRCUITS — PURGING SYSTEMS, etc.

for safety's sake

With leakproof

CIRCLE SEAL PRECISION

CHECK VALVES

Positive, dead-tight sealing assurance never before offered *plus* unprecedented, maintenance-free service life is provided by the CIRCLE SEAL principle.

The ultimate answer to check valve requirements from very low pressure to 3,000 psi.

JAMES-POND-CLARK
2181 E. Foothill Blvd. • Pasadena 8, Calif.

Engineering data sent free of charge on request.

▲ For more details circle **NED-609 H3** on enclosed inquiry slip ▲

Lightweight **HELIARC TORCH**

is water-cooled...

FOR EFFICIENT INERT GAS WELDING AT LOW COST

You can make high quality welds every time with this lightweight, 300 amp. HELIARC HW-10 torch. Both the torch body and power cable have all-internal water-cooling for cooler operation even when welding continuously at full capacity. Yet cleaning is easy for all water passages are straight. Electrode adjustment is quick and simple, too. No wrenches needed. And electrode stub loss is minimized by an improved water-cooling system. Call your nearest LINDE representative today for more details on the HELIARC HW-10 torch.

LINDE AIR PRODUCTS COMPANY
A DIVISION OF UNION CARBIDE AND CARBON CORPORATION
30 East 42nd Street UCC New York 17, N. Y.
Offices in Other Principal Cities
In Canada: DOMINION OXYGEN COMPANY, LIMITED, Toronto

The terms "Heliarc" and "Linde" are registered trade-marks of Union Carbide and Carbon Corporation.

▲ For more details circle **NED-610 H3** on enclosed inquiry slip ▲

IN WIRE-MESH PRODUCTS LET JELLIFF DO IT!

For 70 years we've been weaving Wire Mesh. And a good part of that time we have also been making things of Wire Mesh for people who find it is cheaper, easier and generally more satisfactory to "let Jelliff do it."

From big Dipping Baskets to tiny precision filters — from fuel strainers to what-is-it gadgets — JELLIFF's Custom Production Department turns out fabricated Wire-Mesh products at speed, price and precision that mean lower costs and a stronger competitive position for our many customers.

If you buy or make wire-mesh assemblies as components of your own products and have not yet had an estimate from Jelliff, write today for details. No obligation, even if you enclose a blueprint for us to figure on. Address Department 11.

THE C. O. **JELLIFF** MFG. CORP.
DIPPING BASKETS · LEKTROMESH · RESISTANCE WIRE · WIRE MESH PARTS · WIRE CLOTH · STRAINERS • FILTERS
SOUTHPORT CONNECTICUT

▲ For more details circle **NED-611 H3** on enclosed inquiry slip ▲

NEARLY TWO MILLION NOW IN USE

FOSTORIA LOCALITES

for Machine Tools, Assembly and Inspection Benches

Industry's best tool for fast, accurate, comfortable "Seeing"

$6.12 EACH in package of 6
Single Units $7.65 Each

MODEL 3267-H-174
Overall length 32¾". Three instantly adjustable joints. Flat oblong base for machine screw mounting.

- **Rugged Construction** withstands vibration and rough handling
- **Instantly Adjustable** with flexible ball and socket joints
- **Reflector** accommodates 100 watt or any A-19 or A-21 medium screw base lamp
- **Baked Enamel Finish** — Exterior, smooth Gray — Reflector Interior, high temperature White
- **Wired Complete** with switch socket and 8-ft. oil-resistant cord and moulded plug

LOCALITE fostoria for Light ON the Job

Write for complete catalog of Localite models with various type reflectors, arms and bases for every industrial use.

THE FOSTORIA PRESSED STEEL CORPORATION
FOSTORIA, OHIO
Localites are available through wholesalers everywhere

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INDIVIDUAL VULCANAIRE DUST COLLECTING UNITS

Are used on surface and other grinders where grinding dust must be removed.

Inexpensive, compact units, with no moving parts. Operated from your present air supply.

Installed in a few minutes, eliminating need for costly centrally located dust collecting systems.

The collector element is mounted on the side of the machine. Quickly cleaned, requiring no refills.

Vac-suction pick-up device (vacuum nozzle) is mounted on the grinding wheel guard or close to grinding wheel on other applications. This mounting permits constant contact with dust as the wheel is moved up or down.

A simple needle valve operates the unit, and can be shut off whenever the machine is not in use.

Available in two sizes: 700 series for grinding wheels 7" dia. or less—200 series for wheels 2" dia. or less.

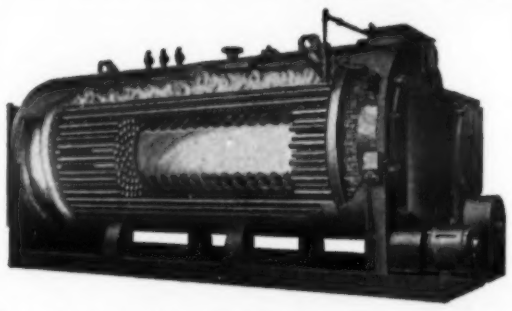
Made by the makers of Vulcanaire The Jig grinding attachment.

Write on your letterhead for "Dust Collector" Booklet.

VULCAN TOOL CO.
737 Lorain Ave., Dayton 2, Ohio

For more details circle NED-613 H3 on enclosed inquiry slip

Do You Know About This TWO PASS DESIGN?



it's found in CONTINENTAL Boilers

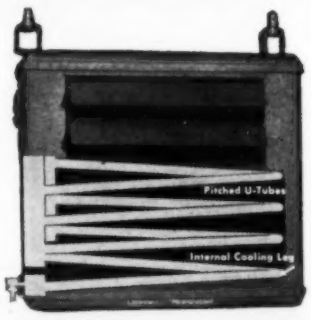
● A self-contained, automatic steam generator, the CONTINENTAL features advanced two pass design which eliminates baffles that may break during operation and destroy boiler efficiency... By utilizing forced draft as well as two pass design, the CONTINENTAL provides uniform distribution of heat through all tubes. This insures long life, for all tubes do equal work... Fuel is fired directly into the firing tube—assuring maximum heat transfer, complete combustion, a high CO_2, and a low stack temperature... The CONTINENTAL is sold, installed and serviced by competent distributors throughout the U. S.

Write for Catalog 102.

BOILER ENGINEERING AND SUPPLY COMPANY, INC.
Manavon Street • Phoenixville, Pa.
40 Years of Boiler Experience

For more details circle NED-614 H3 on enclosed inquiry slip

With **THERMOLIER** ... the Grinnell Unit Heater... YOU GET **CONTINUOUS RATED CAPACITY**



Failure of unit heaters to give freedom from collected condensate in the heating element can interfere with heat output and adversely affect capacity.

A Thermolier Unit Heater successfully handles this drainage problem with its pitched U-tubes and internal cooling leg, through which all the condensate passes. In fact, condensate cooling is so efficient with Grinnell Thermoliers that a thermostatic trap — the simplest and least expensive of all traps — can be used with every model. Condensate temperature is lowered to the point where the trap is always draining — giving Thermolier Unit Heaters their *continuous rated capacity.*

For further details, call your local Grinnell distributor — or send for catalog.

GRINNELL
THERMOLIER UNIT HEATERS

GRINNELL COMPANY, INC.
Executive Offices: Providence, Rhode Island
Sales Offices and Warehouses in Principal Cities

For more details circle NED-615 H3 on enclosed inquiry slip

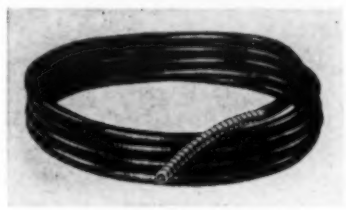
New Processes & Materials

TEFLON TAPE used as electrical insulation

Unusual properties combination makes Polypenco Teflon tape useful in the electrical, electronic and aircraft industries for insulating such items as motors, generators, transformers and coils. It is unaffected by weather conditions, temperature fluctuations and exposure to oils and greases. It is chemically inert and will not deteriorate under continuous service at 518° F. Tape has a high elongation value, is lightweight and is available in thicknesses of 0.002 to 0.125-in. and 1 to 12-in. widths in ¼-in. increments. Also, special sizes will be available to order from **Polymer Corp. of Penna.**, 438 Walnut St., Reading, Pa.

For more details circle NED-616 H3 on enclosed inquiry slip

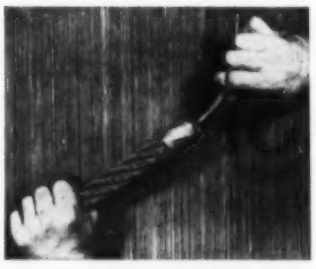
PLASTIC COATING PROCESS for hard-to-coat materials



Recently developed process makes it possible to apply a plastic coating on such items as flexible steel tubing, metal and paper jacketed tubing and other hard-to-coat materials. The smooth, continuous coating does not reduce flexibility of the product itself and will not penetrate small openings. Developed by **Pyramid Plastics, Inc.**, 554N W. Polk St., Chicago 7, Ill.

For more details circle NED-617 H3 on enclosed inquiry slip

WIRE ROPE has coiled steel spring core



Flexibility with ability to resist crushing is imparted to wire rope by the incorporation of a coiled steel spring wire center core. Because of the void inside the rope, a large reservoir for lubricant is provided. Developed for oil drilling rigs, the wire rope resists crushing when reeved around large pulleys and has ability to "snap back" after being crushed. Spring centers are available in wire rope of ⅞, 1, 1⅛ and 1¼-in. diameters. Other diameters will be made on order. Made by **Jones & Laughlin Steel Corp.**, 456 Liberty Ave., Pittsburgh 30, Pa.

For more details circle NED-618 H3 on enclosed inquiry slip

Maintenance man's *assistant*...

24 hours per day

Hills-McCanna force feed lubricators are the answer to the maintenance man's demand for a rugged, dependable lubricator that will operate with a minimum of attention and service. Available in open or enclosed types and in sizes from 2 to 32 pints with 1 to 48 feeds. Catalog L-52 gives full details. Write for your copy. HILLS-McCANNA CO., 2455 W. Nelson Street, Chicago 18, Ill.

HILLS-McCANNA
force feed lubricators

Also manufacturers of Saunders type valves • chemical proportioning pumps • magnesium alloy sand castings.

For more details circle NED-619 H3 on enclosed inquiry slip

Now Better * than ever

FLEX-A-FOAM FILTER MASKS

For Safe, Economical Dust Protection

NEWLY designed for better-than-ever comfort and efficiency. It's easier to breathe through and talk through than an ordinary pocket handkerchief — yet filters nuisance dust particles as small as 1/25000 of an inch!

• **Economical** — Only Flex-a-Foam has long-lasting washable filter that outlasts throw-away type by more than 100 to 1. Filter savings alone more than pay total cost of mask.

• **Comfortable** — Self-adjusting to every face size. Can be worn with goggles or spectacles.

• **Simple** — Only four sturdy, long-lasting parts — all interlocking — all unconditionally guaranteed.

* *New frame design positively locks out air leaks, permits speedy removal of filter for cleaning.*

Dust Protection your workers will welcome and *Wear*

FLEX-A-FOAM® FILTER MASK

SAMPLE STILL ONLY $1.40 POSTPAID

THE GOGGLE PARTS COMPANY • CLEVELAND 13, OHIO

For more details circle NED-620 H3 on enclosed inquiry slip

the Safer Hammer that Saves the Surface!

● New IDEAL Cush'N-Blo Hammers are true SAFETY tools, designed and engineered to give you better soft-face hammer performance—*and save you money at the same time!*

Formulated of special plastic, the replaceable tips outwear ordinary soft-face materials —often by more than 10 to 1. They cannot chip or mushroom under heaviest blows—or "let go" flying particles to endanger workers. Tips are *spark-proof* and securely locked into *spark-proof* heads. They are not affected by oil, grease, gasoline or ordinary industrial acids.

Cush'N-Blo Hammers are carefully balanced for maximum accuracy and driving force. They turn out *more* work and *better* work with minimum effort because they reduce fatigue by reducing rebound.

SOLD THROUGH LEADING DISTRIBUTORS
See Them Now or Mail Coupon for Full Information

● A HAMMER FOR EVERY JOB
5 Diameters
14 Weights
Regular or Shot-Loaded

IDEAL INDUSTRIES, Inc.
1032 Park Avenue, Sycamore, Illinois
Please send catalog data and full description of your Cush'N-Blo Hammers.
Name_____
Company_____
Address_____
City_____ Zone____ State____

For more details circle NED-621 H3 on enclosed inquiry slip

Another **FLASH-O-LENS** at work
...checking soundness of welds at
INTERNATIONAL HARVESTER

By *lighting* and *magnifying* welded parts with FLASH-O-LENS, International Harvester Company's Memphis Plant guards against the most minute cracks in the welds.

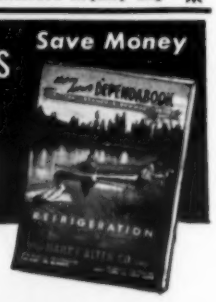
FLASH-O-LENS offers a quick, simple way of detecting defects—of maintaining product quality. Built-in bulb brightly illuminates the inspection area—accurately ground lenses give sharp, detailed enlargement.

Battery and plug-in models from $10.65. Write for free literature on applications, types, prices.

E. W. PIKE & COMPANY
492 NORTH AVENUE ELIZABETH 3, N. J.

For more details circle NED-622 H3 on enclosed inquiry slip

WE'LL SEND YOU THIS WHOLESALE CATALOG FREE!
Save Money
OVER 9,000 ITEMS INCLUDING



GENERAL ELECTRIC
Electronic LEAK DETECTOR

Indispensable—worth its weight in gold—in any work that involves tests for leaks: refrigerator systems, receivers, coils, condensers, oil tanks, tank cars, etc.
Detects leaks on any type closed pressure or vacuum system. So sensitive, this DETECTOR will find a leak as small as 1/100 oz. of Freon per year! . . . Portable . . . Can be used on assembly line or for field service testing.

Get complete details on this amazing device —and a copy of our DEPENDABOOK—FREE! Write

THE HARRY ALTER CO.
1726 S. MICHIGAN AVE., CHICAGO 16
132 LAFAYETTE ST., NEW YORK 13

For more details circle NED-623 H3 on enclosed inquiry slip

RITE-HITE
ADJUSTABLE LOADING DOCKS

- Make a perfect BRIDGE between truck and dock.
- Quick Fingertip Control. One man sets vertical and lateral adjustment instantly.
- Save Crew and Carrier Time.
- Provide smooth "No-Bump" travel.
- Prevent damage to material.
- Easy to install, no costly machinery, no electric or fluid controls, no piping, no lubrication.

Speed Up Cross Dock Operations by installing **RITE-HITE** *Adjustable Loading Docks.*

For complete facts, sizes and capacities, write to: Dept. 14

LOOMIS MACHINE CO. • CLARE, MICH.
RITE-HITE DIVISION

For more details circle NED-624 H3 on enclosed inquiry slip

New Literature & Catalogs

General Tool Catalog

Prepared especially for tool supervisors, engineers, draftsmen and buyers, 176-page catalog 105 lists drills, reamers, countersinks, counterbores, carbide tools, tool bits and special tools. Tabbed sections as well as alphabetical and numerical indexes facilitate quick references. Requests for copy should be on company letterhead to United Drill & Tool Corp., Whitman & Barnes Div., 40600 Plymouth Rd., Plymouth, Mich.

For more details circle NED-625 H3 on enclosed inquiry slip

Flexible Metal Hose

Titeflex Inc.—In addition to complete descriptions and specifications for helically-wound and helically-corrugated flexible metal hose, 48-page catalog 200 contains information for ordering conduit and ferrules, hose assemblies, ignition shielding, bendable pipe and high and low-frequency leads. Engineering data section features frictional-loss-versus-flow-rate charts and installation and maintenance information. The complete manufacturing story is given as well.

For more details circle NED-626 H3 on enclosed inquiry slip

Castings Impregnation

American Metaseal Mfg. Corp.—8-page illustrated bulletin gives process data and describes equipment for impregnation of metal castings and sinterings. The process is described as applicable to quantity production and a variety of metals, and gives both electrolytic and chemical corrosion resistance. It also inhibits bacterial and fungoid growth, and prevents bubbling and spotting out on plated, anodized and painted coatings.

For more details circle NED-627 H3 on enclosed inquiry slip

Gravity Conveyors

Food Machinery & Chemical Corp.—Roller, staggered wheel and side wheel gravity conveyors and accessories are described in 16-page bulletin along with full engineering details, line drawings and specifications. Standard sections are 10 ft long and range from 10 to 26 in. wide. Supplementary 4-page folder describes two models of portable power driven belt piling conveyors.

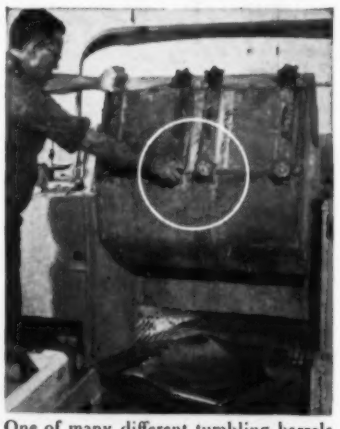
For more details circle NED-628 H3 on enclosed inquiry slip

Maintaining Control Equipment

Allis-Chalmers Mfg. Co.—8-page illustrated manual 14X7612A, called "Proper Maintenance of Control" suggests methods of overcoming some of the most frequent difficulties common to electrical devices. It also has a handy trouble-shooting chart showing symptoms, possible cause and cure. Preventive maintenance is covered by showing just which points should be placed on a regular checking schedule.

For more details circle NED-629 H3 on enclosed inquiry slip

Get the "TOUCH OF GOLD"
FREE sample tumbling from Norton



One of many different tumbling barrels in the new Norton barrel-finishing department.

Find out what barrel-finishing can do for you — without cost. Send your samples of metal parts to the newly enlarged Norton barrel-finishing department. With your processed samples you'll receive recommendations on barrel type, speed, etc., and amounts of ALUNDUM* Tumbling Abrasive and compound.

Finishing parts ranging from tiny needles to several-pound forgings, we have provided many manufacturers with the "Touch of Gold" that means worthwhile savings.

No obligation. Include with sample a finished sample to be matched, plus data on your present barrel-finishing equipment, if any. Mail to Norton Sales Engineering Department, Abrasive Division. NORTON COMPANY, Worcester 6, Mass. Distributors in all principal cities. *Export:* Norton Behr-Manning Overseas Incorporated, Worcester 6, Mass.

*Trade-Mark Reg. U. S. Pat. Off. and Foreign Countries

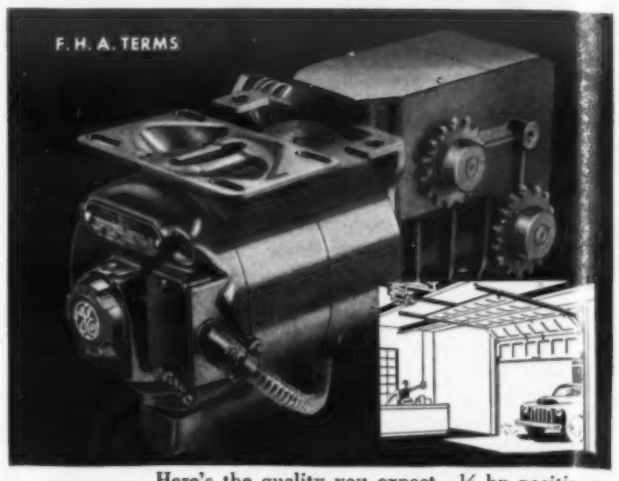
NORTON ABRASIVES
Making better products... to make other products better

G-258

For more details circle NED-630 H3 on enclosed inquiry slip

BARBER COLMAN
Barcol.
Electric Operators

Only $230* for this new Model L for doors up to 12 feet high



Here's the quality you expect—¼ hp positive-reversing motor, safety engineered with adjustable slip clutch, thermal overload and ball-bearing chain drive. In case of power failure, a handy clip release unlocks the door for manual operation. Save heat dollars, save time dollars—ask your local "Barcol" distributor (listed under "Doors" in telephone directory) or write. **F.O.B. Rockford, Illinois*

BARBER-COLMAN COMPANY, DEPT. S38, ROCKFORD, ILLINOIS

For more details circle NED-631 H3 on enclosed inquiry slip

FOSTER
Chrome Sleeve Quick Detachable
COUPLERS
AND HOSE FITTINGS

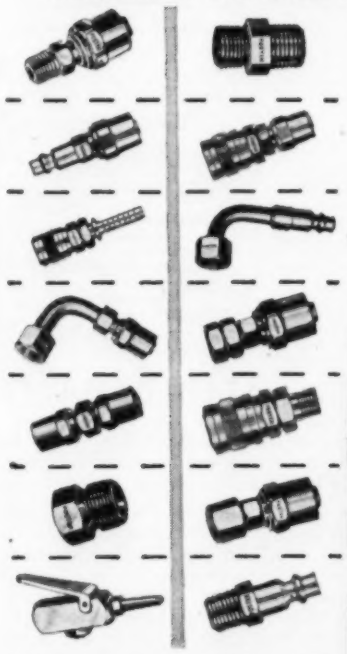
Price...Lower than most
Quality...None Better
Delivery...Immediate

- Reusable Socket Heads for Lower Replacement Cost!
- One Second Hookup Under Pressure!
- Tight-Seal, Dirt-Proof Construction! Leak-proof!
- Instant Automatic Flow! Swivel Action!

Foster Quick Detachable Couplers for pneumatic and hydraulic applications give longer service and cost less than other comparable couplers. Delivery of any order, large or small, is immediate. An order to Foster is faster. Write Dept. 2.

FOSTER MFG. COMPANY, INC.
2850 Gravois • St. Louis 18, Mo.

FOSTER FITTINGS ARE AVAILABLE THROUGHOUT THE NATION



ASK US WHY WE RECOMMEND

For more details circle NED-632 H3 on enclosed inquiry slip

TRI-LOK safety steps

"A STRONG STEP TO SAFETY"

Each Tri-Lok step consists of a panel of Rectangular, Diagonal, or U-type Tri-Lok flooring in any desired width, length, depth, and bar spacing.

SAFE—checker plate nosing bars make each step stand out clearly. Abrasive edging also available.

CLEAN—clogless, rivetless Tri-Lok joint prevents accumulation of dirt, moisture, rust.

STRONG—added strength provided at maximum load contact by shape and rigidity of nosing bar.

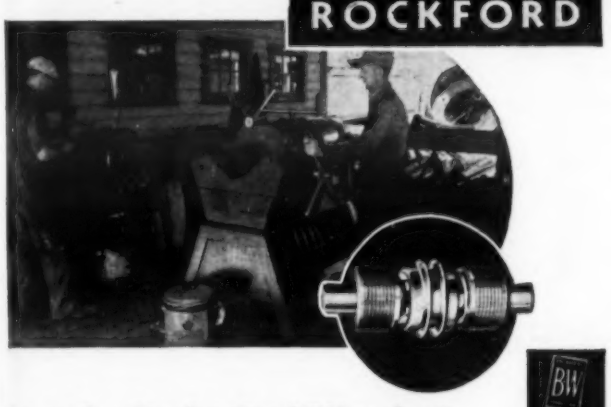
Write today for bulletin PL-1103

DRAVO CORPORATION
National Distributor for the Tri-Lok Company
Dravo Building, Pittsburgh 22, Pennsylvania
Sales Representatives in Principal Cities

DRAVO

▲ For more details circle NED-633 H3 on enclosed inquiry slip ▲

CLUTCHES by ROCKFORD



Provides Mechanized "Muscles" for Pipe Threading Jobs

Much of the manual labor has been taken out of pipe threading by the Toledo Pipe Threading machine shown above. And ROCKFORD Pullmore CLUTCHES help it handle this operation much faster and better than previous cutters. Let ROCKFORD help modernize the power transmission control design for *your* next model.

ROCKFORD CLUTCH DIVISION BORG-WARNER
312 Catherine Street, Rockford, Illinois, U. S. A.

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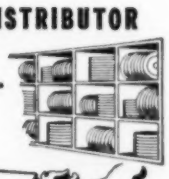
IF YOU HAVE

OR PROBLEMS...

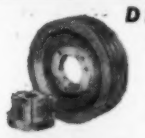
CALL YOUR FORT WORTH V-DRIVE DISTRIBUTOR



HE EITHER HAS IT IN.... OR CAN CONTACT THE NEAREST FORT WORTH WAREHOUSE

THIS MEANS Quick

DELIVERY FOR "QD" and Bolt Rim SHEAVES



FORT WORTH MULTI V-BELTS

MULTI-CORD V-BELTS
STEEL-CABLE V-BELTS
SUPER CORD V-BELTS

Ask about Fort Worth interchangeable hub sprockets—they use V-belt sheave hubs—for immediate delivery without reboring.

WRITE FOR INFORMATION

FORT WORTH STEEL & MACHINERY CO.
DEPT. 228 3600 McCart, Fort Worth, Texas.

▲ For more details circle NED-635 H3 on enclosed inquiry slip ▲

New Processes & Materials

FLOOR CLEANING COMPOUND
safe to use on all floors

A synthetic detergent for floor cleaning use, Cindet is applicable to resilient, hard and rubber flooring, walls, woodwork, porcelain and plastic and many other surface types. It is applied with a clean mop, allowed to stand from 5 to 10 minutes and is then rinsed off. It is diluted with water in various concentrations between 1 part in 10 and 1 in 30, depending on the severity of the application involved. It has a freezing point of about 24° F. Made by **C. B. Dolge Co.**, Indian Hill Rd., Westport, Conn.

▲ For more details circle NED-636 H3 on enclosed inquiry slip ▲

STAMP INK
rubber stamps on most plastics

Applicable with rubber pad to most plastics, Plastic Stamp Ink facilitates marking where volume makes imprinting impracticable. It is available in transparent colors of red, blue and violet, and also in a semi-opaque black. It dries instantly to touch on most plastics, and is then waterproof and cannot be removed by ordinary methods. Possible uses include date stamping, identification and trade mark stamping. Made by **Artone Color Corp.**, Dept. NE, 21 W. Third St., New York 12, N. Y.

▲ For more details circle NED-637 H3 on enclosed inquiry slip ▲

PREPRINTED TAPE
used for production control

Printed by the Rollprint process, Labelon flatback label tape can be used in production control operations. Printed tape illustrated provides blank spaces for fractional horsepower motor inspector's rejection notations as well as for "remarks" regarding performance. Labels are easily removed when they have served their purpose. Surface can be written on with stylus, pen or pencil. Printed flatback tape, offered for other applications including sealing, holding, bundling, instructing, identifying and warning, is available in a variety of widths and roll lengths. Printing can be with any message, design, symbol, etc., in a choice of colors. Made by **Labelon Tape Co.**, 20 Greenleaf St., Rochester 9, N. Y.

▲ For more details circle NED-638 H3 on enclosed inquiry slip ▲

...for micrometer-precision speed control...

HANNA Flo-Set SPEED CONTROL VALVES

For *precision* speed control, measured by a consistent, constant gauge, Hanna offers a line of Flo-Set Valves ¼", ⅜" and ½". Micrometer graduations in hundredths of a revolution permit precision regulation of flow. For light piping and tubing, there's a ¼" Flo-Set Jr. Valve, without micrometer markings.

Hanna Flo-Set Valves are suitable for air, oil or water control, with maximum pressure to 250° p.s.i. and temperature to 250° F. They may be mounted in any position.

WRITE FOR NEW BULLETIN 257
Send for free Bulletin 257 describing the complete line of Hanna Flo-Set Valves.

Hanna Engineering Works
HYDRAULIC AND PNEUMATIC EQUIPMENT .... CYLINDERS .... VALVES .... RIVETERS
1759 Elston Avenue • Chicago 22, Illinois

▲ For more details circle NED-639 H3 on enclosed inquiry slip ▲

high jobs go fast on the

safety level.....

Dayton's special "Safety Level" working platform gives workman complete confidence. He works faster, more efficiently, uses both hands. Check the "big 6" features that make Dayton your best buy.

1. Rail-guarded "Safety Level" platform.
2. Locks in place automatically.
3. Rubber safety shoes.
4. Light weight—great strength.
5. Economically priced.
6. Complete size range 3' to 16' in height.

Write Dept. E for Bulletin

Dayton safety ladders

Dayton safety ladder co.
2339 GILBERT AVENUE
CINCINNATI, OHIO
In Canada:
Safety Supply Co., Toronto

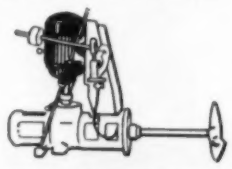
▲ For more details circle NED-640 H3 on enclosed inquiry slip ▲

"Lightnin" Mixers

Mix fluids in a few seconds

FOR PERMANENT MOUNTING ...Top entering propeller mixers for open tanks, closed pressure vessels. Sizes ¼ to 3 HP. Send for Catalog B-103.

TURBINE AND PADDLE MIXERS for open or closed tanks. Sizes 1 to 500 HP. Send for Catalog B-102.



SIDE ENTERING PROPELLER MIXERS. Sizes 1 to 25 HP. Send for Catalog B-104.

Costs less than hand stirring. Mix fluids rapidly, thoroughly—with a LIGHTNIN Portable Mixer. It clamps on any open tank or container... handles any fluids.

Do hundreds of mixing jobs at low cost.

- Mix paint, glaze, chemicals
- Dissolve powders and crystals
- Circulate solvent for cleaning small parts
- Agitate quench baths
- Blend food products

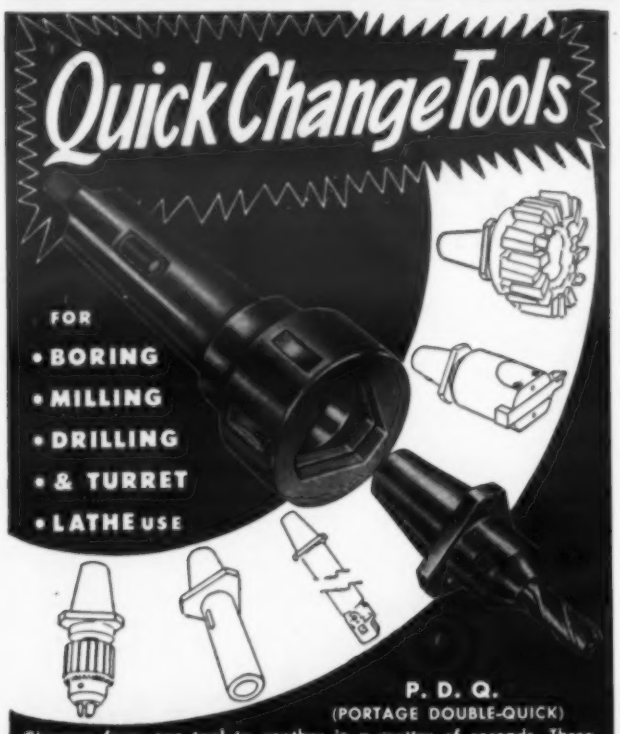
Fully guaranteed to mix quickly and completely. Thousands in use everywhere. Many in service over 20 years.

Thirty models to choose from —⅛ to 3 HP. Electric and air motor types. *Send today for Catalog B-75 and prices.*

MIXING EQUIPMENT Co., Inc.
165 Mt. Read Blvd., Rochester 11, N. Y.
In Canada: William & J. G. Greey, Ltd., Toronto 1, Ont.
MIXCO fluid mixing specialists

▲ For more details circle NED-641 H3 on enclosed inquiry slip ▲

Quick Change Tools



P. D. Q.
(PORTAGE DOUBLE-QUICK)

Changes from one tool to another is a matter of seconds. Three point locking feature and tapered shank assures repositioning and eliminates "run out."

Send for catalog describing individual holders and adapters or for specific information on your machine tools.

PORTAGE Double-Quick TOOL CO.
1043 Sweitzer Avenue • Akron 11, Ohio

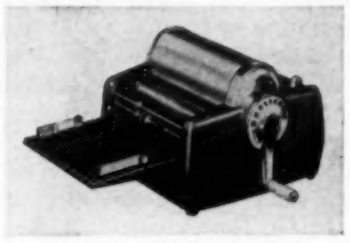
For more details circle NED-642 H3 on enclosed inquiry slip

IMPROVED COPYING MACHINE
copying speed increased 50 per cent

A revised design which permits the use of 220-v ac power has increased the operating speed of the Bruning Copyflex office copying machine by 50 per cent. Model 15 has 20-in. copying width, and makes diazotype copies of any size office form from a large accounting sheet down to an invoice or small memo. It will copy letters or ordinary size business communications two at a time. Made by **Charles Bruning Co.**, Dept. NE 15, 4700 Montrose Ave., Chicago 41, Ill.

For more details circle NED-644 H3 on enclosed inquiry slip

SPIRIT TYPE DUPLICATOR
prints up to five colors at one time

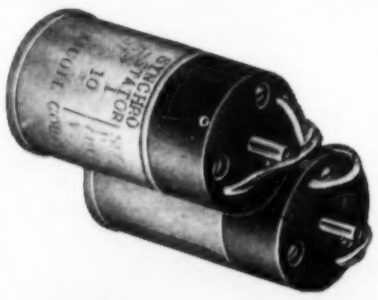


Anything typed, written or drawn in as many as five colors can be reproduced in one operation by the Duplicopy spirit type duplicator. Engineering drawings, sketches, production orders, and other office and shop forms can be reproduced, with the first copy dry and usable. No test sheets are needed. Copy to be reproduced is first typed, written or drawn on a master sheet with a carbon backing. Up to 300 copies can be made from a single master, which can be saved for reuse. Model A-44 machine (shown) features automatic sheet feed and counting meter, while model H-44 is manually fed. Made by **Duplicopy Co.**, Dept. N-2, 224 W. Illinois St., Chicago 10, Ill.

For more details circle NED-645 H3 on enclosed inquiry slip

SYNCHRO UNITS
are miniature 400-cycle type

Having diameter of only 1.062 in., these miniature 400-cycle synchro units are designed for use as transmitters, repeaters, control transformers, resolvers, differentials and linear potentiometers. Maximum error spread is 20 minutes for transmitters, control transformers, differentials and resolvers; 36 minutes for repeaters, tested against master transmitter. Linear synchro output has instantaneous gradient varying less than 5 per cent in angular rotation from minus 85 to plus 85 degrees. Input voltage, current and wattage vary with type of synchro, as does maximum output voltage. Made by **Transicoil Corp.**, Dept. NED, 107 Grand St., New York 13, N. Y.



For more details circle NED-646 H3 on enclosed inquiry slip

WIRE MEASURER
unit measures lengths up to 1000 ft

A hand-held wire measuring unit, Tel-Ryte will measure wire, rope, fabric, sheet metal, glass and screen wire in any length from 1 in. to 1000 ft and in sizes up to ⅜-in. The gage will either add or subtract and has reset knob for turning back to zero reading. Although primarily designed for wire measuring, the floating pressure unit will accept many different substances for any flat or spherical linear measuring application. Made by **Rytel Electronics Mfg. Co.**, 9821 Irwin Ave., Inglewood, Calif.

For more details circle NED-647 H3 on enclosed inquiry slip

DRILL HOLES AS SMALL AS .030" IN ANY METAL OF ANY HARDNESS OR THICKNESS!

The M-300 Elox Electron Drill* combines the best in the 'arc machining' process. In addition to drilling holes as small as .030" it is adjustable for machine finishes ranging from *coarse, fine, extra fine and super fine* ...on any metals from magnesium to cemented carbide. The M-300 with exclusive Elox Automatic Feed allows for continuous operation with much of the human element removed. Using electrodes costing less than 3¢ per inch, with 'super fine' cutting, 1" of electrode will cut as much as 33" of hardened steel! Here indeed, is a dual-purpose machine that is being used for production machining of hardened steels and for removing broken drills in salvage. Write today for details and list of users.

ELOX CORPORATION OF MICHIGAN
738 N. ROCHESTER RD. • CLAWSON, MICHIGAN

For more details circle NED-648 H3 on enclosed inquiry slip

This Free Book

tells you how to speed-up grinding and polishing 300%

Here's valuable information on how to grind and polish better—faster—cheaper ...how to eliminate herringbone patterns and swirl marks . . . how Nu-Matic Air-Inflated Grinders provide up to 3,000% greater abrasive contact area than hard-type wheels. Send today for Nu-Matic Book No. 6353.

N-104

NU-MATIC GRINDERS, INC.
8223 Carnegie Ave. • Cleveland 3, Ohio

For more details circle NED-649 H3 on enclosed inquiry slip

Only THE NEW LEWIS "6" HAS ALL THESE FEATURES!

. . . FOR LOW COST INJECTION MOLDING

- 200-ton "Hydra-Lock" Clamp
- Fast Closing Toggle Mechanism
- Large Platens (14¾"x14¾" Between Rods)
- Quick Opening Die-Lock Device
- Compensating Feed Mechanism
- Safety Gate with Electrical Interlocks
- Adjustable Injection Cylinder Assembly
- Finger-Tip Controls

The LEWIS "6" permits molding of large projected area parts formerly impossible on machines of comparable size. (Shots of 6.8 ounces of polystyrene have been molded repeatedly at rate of 2½ per minute.) Its fast automatic molding cycle, newly developed "Hydra-Lock" clamping mechanism, durable construction and versatility permit this machine to do the work of considerably larger units at a fraction of their initial and normal operating costs. Safety interlocks on the gate as well as a 200-ton mold clamping pressure assure maximum safety for operator.

All outstanding features of the LEWIS "6" are standard equipment . . . *included in one remarkably low price!* For precision moldings and more profitable operation . . . specify the LEWIS "6".

Write for new 8-page Bulletin 102 for complete data.

another FIRST by

LEWIS

1316-LW

THE LEWIS WELDING & ENGINEERING CORPORATION
14 Interstate Street • Bedford, Ohio

For more details circle NED-643 H3 on enclosed inquiry slip

NOW! Compare Electric Trucks Before You Buy!

Lewis-Shepard Comparison Charts give you a chance to make your own unbiased, visual comparison of electric trucks *before* you buy. Checklist chart lets you itemize merits of each truck. We're sure that when you compare the facts you'll agree—Lewis-Shepard Trucks are genuinely superior. Ask for "Proof Folders" and Catalogs, too. *Write today!*

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1032-8 WALNUT ST., WATERTOWN 72, MASS.

Nationwide Service — See "Trucks, Industrial" in your Yellow Phone Book

The MASTER Line

For more details circle NED-650 H3 on enclosed inquiry slip

Need a building? Or a series of them? Quickly, and at low cost?

Truscon SPEED-ERECT Steel Buildings can be arranged to fit exactly your requirements of design and budget. Truscon Steel Buildings are available in a wide range of standard designs. They are used for all kinds of industrial and commercial buildings because they offer fire protection, permanence, ease and speed of erection, low upkeep, low cost, high investment value. Truscon Steel Buildings have a high salvage value which permits them to be dismantled and re-erected in an entirely new location at modest expense.

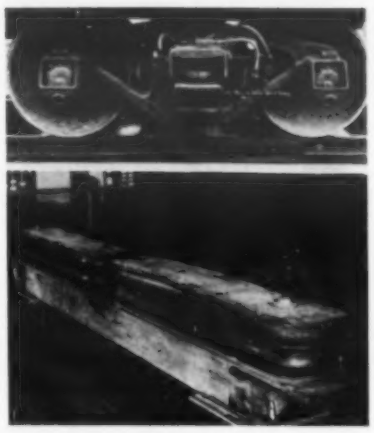
Write and tell us your building requirements.

FREE BOOK—Plan your building needs with the aid of the fully illustrated, 24 page catalog giving full details on these Truscon Ready-Made Steel Buildings. Write for your free copy today.

TRUSCON STEEL DIVISION 1096 Albert St. Youngstown 1, Ohio
REPUBLIC STEEL CORPORATION

For more details circle NED-651 H3 on enclosed inquiry slip

RAILROAD CAR "SPRING" pneumatic type is in testing



Tests on a freight car equipped with this air cushion springing have shown that vertical oscillation is greatly reduced in both amplitude and frequency, making for a soft, easy ride. Unit, which is currently undergoing development and tests, takes its air supply from the train line, and has built-in regulator which maintains car body at constant height regardless of load. Deflection of air spring per pound of load is about twice that of leaf springs on fully loaded car. When running light, deflection is four or five times that of leaf spring suspensions. Safety feature permits car to proceed to terminal for repairs in the event of damage to air system. Developed in co-operation with Timken Roller Bearing Co. by **General Tire & Rubber Co.**, Dept. RM, 1708 Englewood Ave., Akron 9, O.

For more details circle NED-654 H3 on enclosed inquiry slip

Aprons
Arm Protectors
Blankets
Capes (Welders)
Clothing
Curtains
Firemen's Suits
Gloves
Hand Pads
Head Protectors
Leggings
Mittens
Shoe Covers
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Get everything you need in protective apparel from Wheeler! From head to toe the Wheeler line is complete. When you buy from Wheeler you buy the highest quality, longest wearing, SAFEST garments available!

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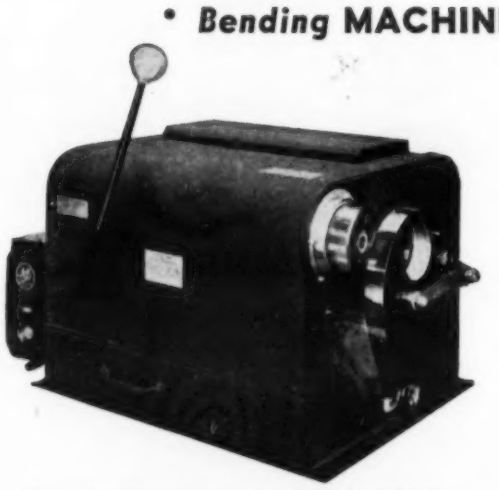
WHEELER PROTECTIVE APPAREL INC.
WHEELER 234 W. Huron St. Chicago 10, Illinois
"More Safety per Dollar"

For more details circle NED-657 H3 on enclosed inquiry slip

Leonard Tubemaster

TUBE
- *Flaring*
- *Beading*
- *Deburring*
- *Bending* MACHINES

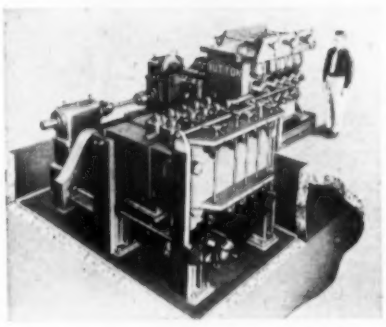


Consult Our Tube Specialists Division for Production Tube Processing

LEONARD PRECISION PRODUCTS CO.
P. O. BOX 176 GARDEN GROVE, CALIF.

For more details circle NED-652 H3 on enclosed inquiry slip

STRAIGHTENING MACHINE for all types of bar stock has working speeds from 100 to 1000 fpm



Working accurately at production speeds from 100 to 1000 fpm, model 2½L straightening machine is designed for steel and nonferrous flats and shapes such as squares, hexagons and angles. Capacities in squares are up to 1¾-in., in hexagons to 2-in. and in flats to 3 x ⅝-in. Large roll shafts on close centers give easy straightening of small sections and permit the removal of short hooks.

Normally arranged, machine straightens in both horizontal and vertical planes simultaneously. Adjustments for both planes are made by push buttons which control motor driven screws to raise or lower rolls. However, design variations are possible for either horizontal or vertical single plane use and for special size requirements or other individual applications. Made by **Sutton Engineering Co.**, 1050 S. Potter St., Bellefonte, Pa.

For more details circle NED-655 H3 on enclosed inquiry slip

Job-engineered for greater production profits!

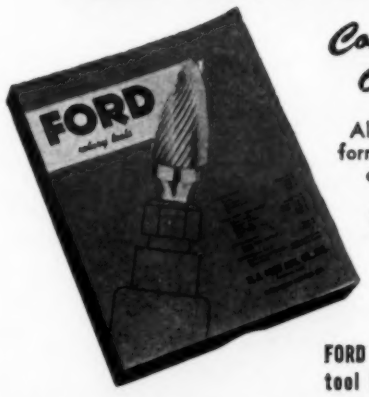
FORD

solid CARBIDE END MILLS

On-the-job tests of FORD solid carbide end mills confirm their superiority! Greater rigidity, job-engineered spiral flutes and cutting edges, and close tolerances all contribute to faster, better production and lower costs. Sizes to ½". See new catalogue No. 207.

FORD -- *the complete line!*

HSS ground cutters, rotary files, countersinks
CARBIDE cutters, end mills, grinding burs



Complete Details, Operating Data

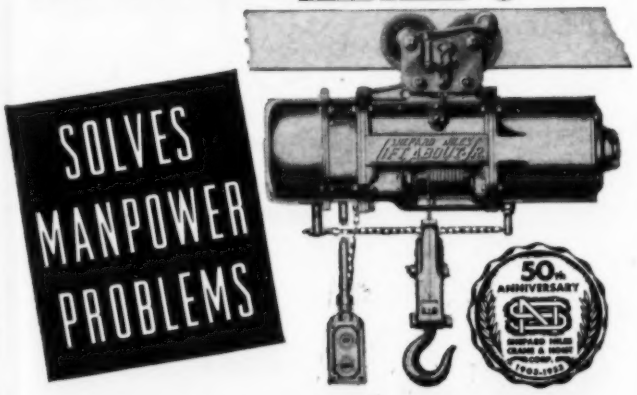
All specifications, plus informative operational data on more than 300 FORD stock rotary tools contained in new FORD catalogue No. 207, just released. Send for YOUR copy.

FORD regrinding service adds new tool life, reduces tool costs!

M. A. FORD MFG. CO., INC.
Pioneers in rotary tools for more than 30 years
721 West River Street, Davenport, Iowa

For more details circle NED-658 H3 on enclosed inquiry slip

SHEPARD NILES *LIFT ABOUT JR.*



- One man replaces many—and moves more goods faster—with a low-cost Shepard Niles Lift About Jr.! This light-weight Electric Hoist frees floor space for production, puts waste ceiling area to work. Loads of 500, 1,000 or 2,000 lbs. are handled easily by an older man, woman or youth.
- Learn how the Lift About Jr. fits into your production picture from a Shepard Niles representative. He'll help you select the right capacity and controls for your handling job. Write for latest bulletins today—and ask to have a representative call.

SHEPARD NILES CRANE AND HOIST CORPORATION
1827 SCHUYLER AVENUE, MONTOUR FALLS, N.Y.

For more details circle NED-653 H3 on enclosed inquiry slip

GET THIS NEW GUIDE TO **TUTHILL** GENERAL-PURPOSE PUMPS

- ★ For Design
- ★ For Production
- ★ For Maintenance

The new Tuthill Catalog No. 102 provides a handy reference on general purpose pumps to fill your individual needs. It includes complete data on mechanically-sealed units, automatic reversing types, stripped pumps for built-in applications and other variations to meet specific requirements. You'll save time, trouble and money with this information.

Write today for Tuthill Catalog No. 102.

TUTHILL PUMP COMPANY
Dependable Rotary Pumps since 1927
939 East 95th Street, Chicago 19, Illinois
Canadian Affiliate: Ingersoll Machine & Tool Company, Ltd. Ingersoll, Ontario, Canada

For more details circle NED-656 H3 on enclosed inquiry slip

BOOST PRODUCTION

COBURN

OVERHEAD CONVEYING EQUIPMENT

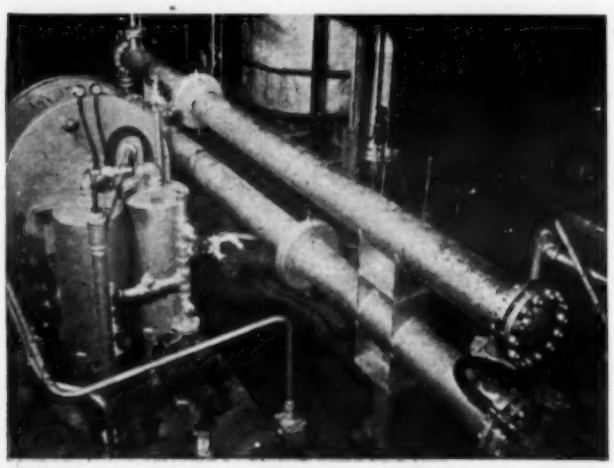
Meet today's need for maximum plant production, increased efficiency and faster handling of materials with Coburn Overhead Conveying Equipment. It gives you unobstructed floor space, requires very little headroom, makes it easy to spot work directly over machines. Loads up to 3000 lbs. handled by hand chain or electric hoist; power-operated equipment also available.

For additional information write to Sales and Engineering, 56 Sterling St., Clinton, Mass., or consult your classified telephone directory. Write today for catalog #220.

EAST: Wickwire Spencer Steel Division, Clinton, Mass.
WEST: The Colorado Fuel and Iron Corporation, Denver, Colorado
PACIFIC COAST: Pacific Coast Division, Oakland, California

COBURN PRODUCTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION CF&I

For more details circle NED-659 H3 on enclosed inquiry slip



When are 2 heat exchangers BETTER THAN ONE?

Here's an example of how Pfaudler engineering know-how can solve your heat exchanger problems at the lowest possible cost to you.

A chemical processor came to us for a single heat exchanger to do a single duty. But after careful analysis of the customer's requirements, our engineers recommended the two heat exchangers shown in the picture above. Why?

Because of the unusual temperature conditions under which this customer was processing, it was determined that two heat exchangers connected in series, instead of one, would do the job more efficiently—and therefore more economically. More than a year of actual operation has proved this to be true.

Pfaudler also offers a complete line of standard stainless steel heat exchangers. Because of our extensive stocking of standard parts, even the standard Pfaudler heat exchangers can generally be engineered to your individual requirements. Yet they cost you no more than standard units. And new production methods make possible 4 to 12 week deliveries.

Whenever you have an engineering problem involving heat exchange, we will be glad to discuss it with you—without obligation. And the chances are that Pfaudler can solve it in the least time and at the lowest possible cost to you.

ALL THE DATA YOU NEED to work out heat exchanger capacity and type problems is contained in this 40-page fact-packed Pfaudler manual. The tables, charts and curves are easy to follow. And it includes full details on Pfaudler heat exchangers. Mail the coupon for your copy.

Pfaudler

Engineers and Fabricators of corrosion-resistant process equipment since 1884

GLASSED STEEL • HASTELLOY • ALUMINUM • CARBON STEEL • SOLID OR CLAD STAINLESS STEEL • NICKEL • INCONEL • MONEL

THE PFAUDLER CO., DEPT. NED 8 Rochester 3, N. Y.
Please send me the Pfaudler Heat Exchanger Manual No. 837
Name .....
Title .....
Company .....
Address .....
City ..... Zone ..... State .....

For more details circle NED-660 H3 on enclosed inquiry slip

FLOOR CLEANER
heavy-duty, for wet or dry pick-up

For industrial, commercial or institutional floor maintenance, model P-901 heavy duty cleaner uses a 1-hp ac/dc motor to produce vacuum equivalent to 58-in. water lift. Container has liquid capacity of 13 gal, and dry capacity of 1.25 bushels. Filtering area is 1060 sq in. The unit weighs 68 lb, and is equipped with a set of cleaning tools for general maintenance, including rubber-lined hose and adaptor, steel floor rod, aluminum floor nozzle, utility tool and slide-on brush. Wet-pickup tool kit including rubber squeegee, steel-bladed squeegee and suds shield is also available as an extra. Made by **Premier Co.**, Dept. KP, 754 Woodlawn Ave., St. Paul 1, Minn.

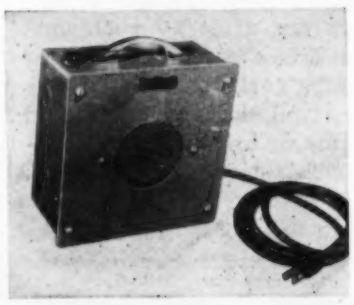
For more details circle NED-661 H3 on enclosed inquiry slip

LIQUID FEEDER
air valve meters flow

Adjusted by valve that meters air admitted to supply tank, Liquifeeder does not restrict liquid flow, but will vary amount of liquid fed from less than ½ pint to more than 500 gallons a day. A combination sight glass and bubble type flow meter shows liquid feed rate. Units can be constructed of material to suit specific fluids, in any required size and capacity. All parts subject to corrosion are fabricated from stainless steel with Teflon gasketing. A gravity feeding principle is utilized. Made by **Hankison Corp.**, 237 Biltmore Bldg., 951 Banksville Rd., Pittsburgh 16, Pa.

For more details circle NED-662 H3 on enclosed inquiry slip

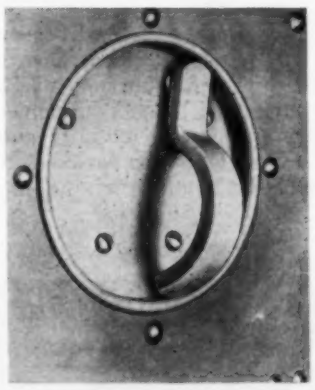
PORTABLE PAGING UNIT
plugs into light and power wiring



Part of the IBM electronic paging system, this portable unit receives both audible and visual signals when plugged into any alternating current light or power wiring outlet. High frequency signaling pulses are imposed on wiring in variety of arrangements or codes. These are picked out by the individual unit arranged to accept them. Each unit thus has its own paging code, and within that code any number of signals can be prearranged. Reasons for paging such as "visitor or customer waiting" could well be sent after the first call signal. System can also be arranged so that a push-button mounted at building entrance will actuate watchman's paging unit. Made by **International Business Machines Corp.**, Dept. JBD-1, 590 Madison Ave., New York 22, N. Y.

For more details circle NED-663 H3 on enclosed inquiry slip

SEMIFLUSH HANDLE
has large gripping area



Sufficient room for gripping by a large or gloved hand is provided by this semiflush door handle with curved grip. It measures 1½ in. deep and 3 in. long. Bushing of handle is at side of cup, providing a roomy grip and easy leverage action. A quick-slamming lock is attached to the handle. Made by **A. L. Hansen Mfg. Co.**, 5164 Ravenswood Ave., Chicago 40, Ill.

For more details circle NED-664 H3 on enclosed inquiry slip

Extra thin . . . for cleaner, sharper-line masking. Greater *flexibility* . . . for masking curves faster. Extra *strength* . . . to hold positively yet strip off fast in one piece. Resists stains, oils, solvents—leaves no residue. Gives on-the-job speed and results for a faster, better job . . . *at lower cost*. Write for information and free samples. Mystik Adhesive Products, 2657 North Kildare Avenue, Chicago 39.

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For more details circle NED-665 H3 on enclosed inquiry slip

Two Way Protection

Slip a Twin Disc HYDRO-SHEAVE® Drive on the end of motor or engine shaft, and you've gained *two*-way protection . . . a "cushion" of oil that *protects:* (1) motors and engines from damaging overloads; (2) driven equipment from shocks and vibrations. Call your Twin Disc Hydraulic Dealer today—find out how other industries in your area are getting two-way protection against overload repairs and lost man-hours with HYDRO-SHEAVE Drives. And write for Bulletin 145-B.

HYDRO-SHEAVE Drive—the Twin Disc Hydraulic Coupling unit designed for easy installation on motors or engines from ¾ to 50 hp.

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois
BRANCHES: CLEVELAND • DALLAS • DETROIT • LOS ANGELES • NEWARK • NEW ORLEANS • SEATTLE • TULSA

For more details circle NED-666 H3 on enclosed inquiry slip

The REED tells the SPEED

...New Booklet tells the story of FRAHM® RESONANT REED HAND TACHOMETERS

. . . an interesting and practical presentation of the phenomenon of resonance as applied to the measurement of speed through the use of a set of tuned steel reeds mounted in a case with a scale calibrated in rpm.

IF YOU WANT QUICK, ACCURATE READINGS *WITH SAFETY*

Don't overlook the advantages of FRAHM RESONANT REED TACHOMETERS for hand or permanent mounting. *No contact with moving parts is required.* Just touch the instrument to the chassis, frame or housing of the machine or motor and read the rpm directly. Practically any desired range within 900 and 100,000 rpm can be supplied.

Write for BULLETIN 31P8-D

JAMES G. BIDDLE CO.
Electrical & Scientific Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA.

For more details circle NED-667 H3 on enclosed inquiry slip

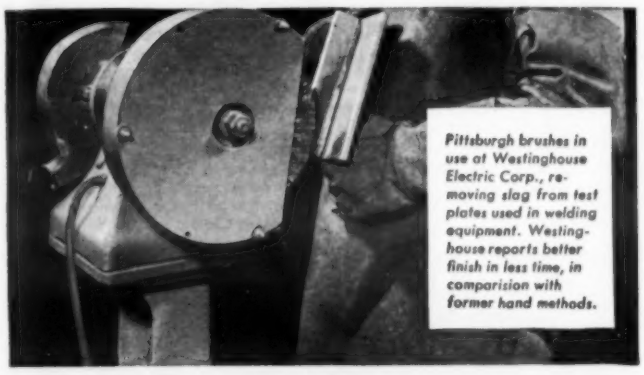
For rubber, paper, plastics, textiles, metals, foils . . .

Need to wind coils of steel strip that weigh 100,000 lbs.?—handle scrim or tissue as delicate as a cobweb? Need to move materials loaded with lint, dust, clay or tar?—with runouts of an inch in every lap? Askania Edge Position Control takes all these tough problems in stride, and the easy ones too. It's a simple, versatile, non-contact control—all that touches the web is a breath of air. It's powerful, dependable, and easy to maintain—its control range is limited only by your own equipment.

If you work with rubber, plastics, foils, papers, textiles, or metals—if it's handled in webs it can be handled better with Askania Edge Position Control! Let Askania specialists help analyze your web-guiding problems. Write for Bulletin 141.

ASKANIA REGULATOR COMPANY
258 E. Ontario Street Chicago 10, Illinois
Subsidiary of General Precision Equipment Corp.

For more details circle **NED-668 H3** on enclosed inquiry slip


Pittsburgh brushes in use at Westinghouse Electric Corp., removing slag from test plates used in welding equipment. Westinghouse reports better finish in less time, in comparision with former hand methods.

Replace hand finishing with power-driven Pittsburgh Brushes for

Better Cleaning Lower Labor Costs Fewer Rejects

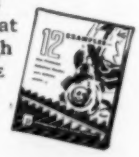
—as these companies did:

Removal of imbedded slag in welding test plates formerly was done by hand at the Westinghouse Electric Corp., Trafford, Pa., using a wire brush and welder's hammer. Pittsburgh brushes, powered by a direct-drive ½ h.p. motor, now remove more slag in less time, and produce a better finish. In addition, Westinghouse reports their Pittsburgh brushes "stand up better than average in use."

Complete cleaning of dried concrete, rust and scale from steel frames used in concrete forming is essential prior to re-using the forms. Pittsburgh wire brushes were installed at the Universal Form Clamp Co., Chicago. Working on a conveyor-fed machine, the Pittsburgh brushes now remove all foreign material at a rate of 50 pieces per hour, replacing former laborious hand brushing and scraping.

De-scaling preheated bar stock at the Dominion Forge & Stamping Co., Ltd., Canada, was formerly done by hand scraping. This never did a complete job, and inclusions resulted which produced defective forgings. Pittsburgh brushes, on specially-designed machines, now do the job, and have "increased efficiency, decreased the amount of scrap, improved work quality, and saved labor."

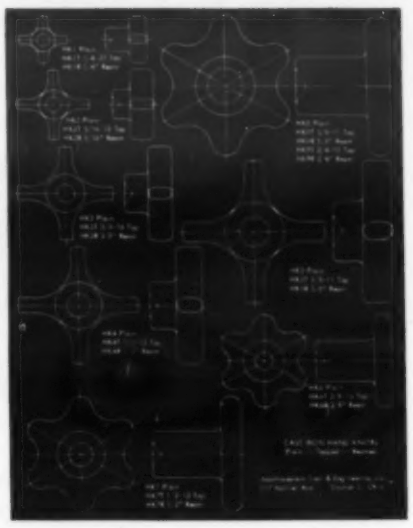
WRITE TODAY FOR FREE BOOKLET!
Write today for a free copy of our booklet that shows, through actual case histories, how Pittsburgh cuts brushing costs. Address: PITTSBURGH PLATE GLASS COMPANY, *Brush Div.*, Dept. W-4, 3221 Frederick Avenue, Baltimore 29, Maryland.



PITTSBURGH *Power Driven* **BRUSHES**
BRUSHES • PAINTS • GLASS • CHEMICALS • PLASTICS • FIBER GLASS
PITTSBURGH PLATE GLASS COMPANY
IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

For more details circle **NED-669 H3** on enclosed inquiry slip

TRACING TEMPLATE for jig and fixture components

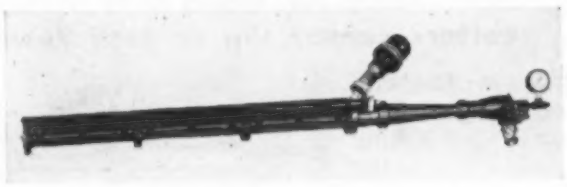


Covering 263 jig and fixture components in full scale, tracing template folder outlines items in white on black background so that both eyestrain and missed lines during tracing are minimized. It also provides a quick reference on standard parts. Among components shown are cut thread studs, fixture keys, latch bolts, knurled head screws, shoulder and quarter turn screws, hand knobs (illustrated), and flanged nuts. Available free from **Northwestern Tool & Engineering Co.**, 127 Hollier Ave., Dayton 3, O.

For more details circle **NED-670 H3** on enclosed inquiry slip

LINE BURNERS will fire in any direction

Gas-fired retention-type line burners will fire in any direction and are suitable for applications where heat must be distributed over a wide area by continu-



ous flame. These include kettle, oven and air heating installations. Of blast design, burners have good combustion with rich, neutral or lean mixture at all mixture pressures, and have cast iron sections with drilled ports and steel retention lips for flame stability. Sections can be bolted together for a wide variety of flame patterns. An adaptor flange is available for applying either a blast or atmospheric pilot and flame failure protective equipment. Made by **Eclipse Fuel Engineering Co.**, 1002 Buchanan St., Rockford, Ill.

For more details circle **NED-671 H3** on enclosed inquiry slip

DO YOU KNOW? A new surface-treating process for polyethylene film increases ink adhesion, speeds up press runs, lowers printing costs and helps solve major problems of printing on this versatile packaging material. Tradenamed Cheslene TF, this treated Bakelite polyethylene film is made by Chester Packaging Products Corp., Yonkers 2, N. Y.

For more details circle **NED-672 H3** on enclosed inquiry slip

MERRILL MATERIALS HANDLING DEVICES

3-M-2

MERRILL BROTHERS
56-13 ARNOLD AVENUE MASPETH, N. Y.

For more details circle **NED-673 H3** on enclosed inquiry slip

NOW *from a single source*
A COMPLETE PACKAGING SERVICE
—Carload to Parcel Post—

GERRARD offers	**Automatic Twine Sealing**
Round and Flat	**Bag Ties**
Steel Strapping	**Tackers • Staplers**

GERRARD'S Complete Packaging Service includes:

Round Steel Strapping From 8 gauge for carload reinforcement and palletizing to 18½ gauge for light weight and parcel post packages. May be applied with either hand-operated or semi-automatic Gerrard machines.

Flat Steel Strapping In five heavy duty sizes for palletizing and carload reinforcement. Applied with a completely new line of Heavy Duty Flat Steel Strapping tools.

Automatic Twine Sealing With twine in weights for bundling mail, small parts, cartons, and a wide variety of light materials. The Gerrard Twine Sealer fastens the twine with a slip-proof metal seal.

Bag Ties 12 to 21 gauge wire for tying bags of every material and for bundling posts, rods, pipe, and numerous other applications.

Tackers and Staplers In 7 models for both general and special uses.

Contact a Gerrard Packaging Engineer, or write for free literature about any or all phases of our Complete Packaging Service.

Gerrard Steel Strapping Division, United States Steel Corporation
4717 South Richmond St., Chicago 32, Ill.

USS **GERRARD STEEL STRAPPING**
UNITED STATES STEEL

For more details circle **NED-674 H3** on enclosed inquiry slip

Tough Babies!
THEY DEFY ROUGH HANDLING!

LOWER COST Material Handling favors these rugged items! Mill-box above features steel compound Top rail (see inset) and Bulge corners, both extraordinary wear-resisting. Note slat reinforcing and non-jamming "nesting limits"

BOTH BUILT BY "BAL" BUILT WITH A CONSCIENCE FOR MATERIAL HANDLING

Nesting tote boxes at right, also built with handles and strongly reinforced all-fibre; hard, vulcanized for severe usage.

ALSO HARD VULCANIZED FIBRE TRUCKS, DRUMS, SPECIAL CASES.

• *Write for Catalog!*

WILLIAM BAL CORPORATION
11 Johnson St, Newark 5, N. J.

For more details circle **NED-675 H3** on enclosed inquiry slip

PRE-TESTED TOUGHNESS FOR *Torture* DRIVES

PRE-CHECKED HARDNESS PROVES EXTRA WEAR IN ATLAS ROLLER CHAIN

Longer trouble-free production for you is proved by repeated Rockwell Hardness Tests of every important part of Atlas Chain. The toughness that gives greater strength and wear resistance . . . built in by the exclusive Atlas hardening process . . . is scientifically checked and re-checked. Result . . . ruggedness for every drive . . . smoothness for positive power.

The pre-tested toughness of Atlas Roller Chain lets it take a beating, stand up longer. That means lower maintenance and fewer replacements, greater production and higher profits.

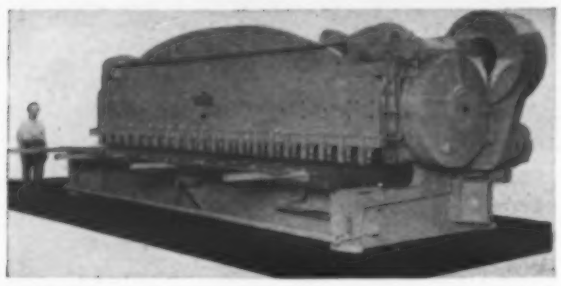
For full rated speeds on all your machines, under any operating condition, install Atlas "Super-Life" Roller Chain—the chain with the extra stamina. Write today for the new Catalog and Handbook on Atlas Chain.

See Your Local Atlas Distributor for Quick Deliveries . . . Service

ATLAS CHAIN & MANUFACTURING CO., Phila. 24, Pa.

ATLAS ROLLER CHAIN

For more details circle **NED-676 H3** on enclosed inquiry slip



CINCINNATI ALL-STEEL SHEARS

are equipped with hydraulic hold downs, 4 edge knives, steel frames, precision gauges and other features.

From 10 ga to 1¼" capacity
4' to 24' in length

Write for Catalog S-6

THE CINCINNATI SHAPER CO.
CINCINNATI 25, OHIO, U.S.A. SHAPERS • SHEARS • BRAKES

▲ For more details circle **NED-677 H3** on enclosed inquiry slip ▲

TUBE MILL
for fabricating nonferrous metals produces ¾ to 4-in diameter tubing

Illustration shows a nonferrous induction welding tube mill which operates at speeds from 40 to 120 fpm, depending on gage and kind of metal being

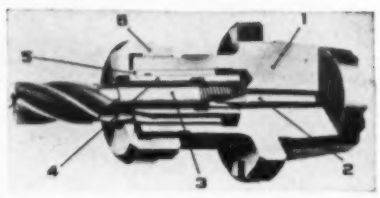
welded. Its capacity ranges from ¾ to 4-in. tubing, in gages from 0.025 to 0.134-in. A similar unit will have capacity up to 8-in. diameter.

Metals which can be fabricated by this newly developed machine include almost the entire range of aluminum alloys, certain magnesium alloys, many brasses and other copper alloys, nickel, Monel, stainless and carbon steels. Ideally suited for making aluminum cable sheathing, mills continuously cold form and weld the sheath around the cable, which is fed in at the same time as the strip stock. There is no damage to any paper or rubber cable covering. Made by **Yoder Co.**, 5501 Walworth Ave., Cleveland 2, O.

▲ For more details circle **NED-680 H3** on enclosed inquiry slip ▲

▲ For more details circle **NED-683 H3** on enclosed inquiry slip ▲

MILLING CUTTER CHUCKS
self-locking for heavy-duty work, cutters cannot slip or push down



Made in England, Autolock and Dedlock self-locking milling cutter chucks eliminate the use of adaptors through their capacity ranges. The Autolock is available in two capacities of 1/16 to ¾-in. and ⅞ to 1¾-in., and the Dedlock handles cutters from 2 to 6 in. A wide range of cutters is available for both types. Illustration shows an Autolock with (1) standard taper arbor, (2) male center which centers cutter and insures rigidity, (3) cutter, (4) collet, with dogs which fit into neck of chuck body, (5) sleeve and (6) retaining nut.

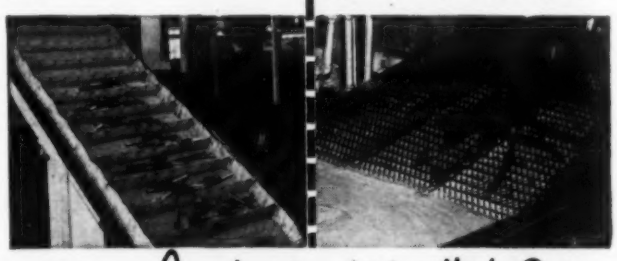
In operation, turning tendency of cutter creates a drawing action on threaded cutter end and forces collet down cutter shank. Thus tapered portion of collet is pressed into mating taper of sleeve, gripping cutter shank more tightly. Typical performance in mild steel is the machining of a slot ½-in. wide and ¾-in. deep in one cut at 4 ipm with an accuracy of 0.0005-in. Distributed by **Clarkson Inc.**, Sales Dept., 320 Ontario St., Toledo, O.

▲ For more details circle **NED-681 H3** on enclosed inquiry slip ▲

Why a Wire Mesh Conveyor Belt

because—
the moving belt gives fast continuous production, frees costly manual labor for more valuable work.

because—
open mesh allows free drainage of process solutions, circulation of process atmosphere, is unharmed by heat, cold, corrosive agents.



Why a Cambridge Wire Mesh Belt

because—
Cambridge leads the field in wire mesh belt development and uses, offers you wire mesh belts in any mesh or weave, metal or alloy, length or width.

because—
Cambridge offers you a complete engineering service for continuous processing in metal, ceramic, chemical or food plants.

NEW BELT MANUAL—WRITE FOR IT, FREE! Write for information or call in your Cambridge Field Engineer. See "Belting-Mechanical" in your classified telephone book.

The Cambridge Wire Cloth Co.

WIRE CLOTH · METAL CONVEYOR BELTS · SPECIAL METAL FABRICATIONS

Department C
Cambridge 8,
Maryland

OFFICES IN PRINCIPAL INDUSTRIAL CITIES

▲ For more details circle **NED-684 H3** on enclosed inquiry slip ▲

Wide Grip Range

of DU PONT EXPLOSIVE RIVETS
cuts inventory and handling costs

NOW you can solve inventory and handling problems quickly, easily—with Du Pont Industrial Explosive Rivets! Their extremely wide grip range (illustrated above) lets you fasten varying thicknesses of material with the same size of Rivet. You need fewer sizes to do all the work. Explosive Rivets offer split-second fastening in two easy steps: 1. Simply touch head of Rivet with heated Du Pont Riveting Iron; 2. Minute charge in shank expands almost instantly, forming a barrel-shaped head on shop end of Rivet that anchors it in place. You can set 20 to 25 a minute, with no after-finishing needed. Send for manual detailing grip ranges of each size of Explosive Rivets. *Contact nearest* Du Pont Refinish Service Warehouse, or write: E. I. du Pont de Nemours & Co. (Inc.), Explosives Dept., Wilmington 98, Del.

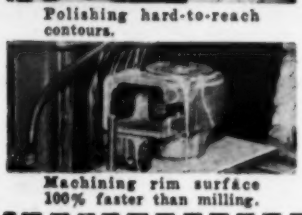
DU PONT *Hi-Speed*
INDUSTRIAL EXPLOSIVE RIVETS
A Product of Du Pont Explosives Research

DU PONT — Better Things for Better Living . . . through Chemistry

▲ For more details circle **NED-678 H3** on enclosed inquiry slip ▲

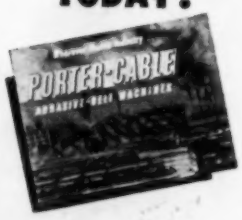
Roughing and finishing in one set-up.

Polishing hard-to-reach contours.



Machining rim surface 100% faster than milling.

Send for this
FREE BOOKLET TODAY!



Shows how manufacturers use abrasive belt machining to . . .

- grind ganged aluminum forgings
- finish-grind hardened steel bar
- deburr plastic without discoloring
- grind thin wall bronze casting
- bevel-grind corrugated metal
- centerless-grind carbon steel tubing
- bevel glass without chipping
- contour-grind sheet metal

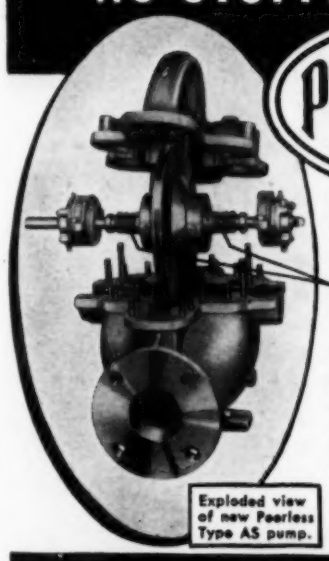
Plus 38 other "case histories" on a wide variety of materials and operations. Booklet contains 32 pages of factual information . . . perhaps the answer to your own machining problems. Mail coupon for your free copy.

PORTER-CABLE Machine Co 1408 N. Salina St., Syracuse 8, N. Y.
(In Canada, send to: Strongridge, Ltd., London, Ont.)
Please send your free "Case Histories" booklet on the ingenious uses of abrasive belt machining.
Name..... Title.....
Address.....
City..... Co. ..... State.....
Manufacturers of SPEEDMATIC and GUILD Electric Tools

▲ For more details circle **NED-679 H3** on enclosed inquiry slip ▲

THIS NEW HORIZONTAL SPLIT-CASE ALL PURPOSE PUMP HAS NO STUFFING BOX!

PEERLESS PUMPS



Exploded view of new Peerless Type AS pump.

New Peerless Type AS Pump is designed around mechanical shaft seals

Write today for Peerless Pump Bulletin No. B-1350. Profusely illustrated with pump views, sectional and cutaway pump drawings, elevations and dimensional data. Mechanical shaft seals prevent water leakage, save space, cut maintenance costs, provide extra quality without a premium in price.

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION

Los Angeles 31, California and Indianapolis 8, Indiana
Offices: New York, Chicago, St. Louis, Atlanta; Dallas, Plainview and Lubbock, Texas; Fresno, Los Angeles; Phoenix; Albuquerque, N. M.; Tulsa

▲ For more details circle **NED-682 H3** on enclosed inquiry slip ▲

NEW CONTROL SYSTEMS on M & T WELDERS for GREATER ACCURACY and CONVENIENCE

ONE-DIAL DOUBLE CONTROL PANEL eliminates plug-ins on DC WELDERS

New control system on all M & T DC Machines now makes regulation of welding current easy and positive! Simply set the electrode selector, then dial for required current . . . Welders are available in light-duty 200 amp and heavy-duty 200, 300 and 400 amp models — motor-generator or gas-driven.

RANGE SWITCH TO SPEED RANGE CHANGING ON AC WELDERS

New range switch provides rapid changing from high to low or low to high range . . . No cable leads to unplug, no connections to make . . . Case mounted primary switch permits turning off welder to save current between welds . . . M & T AC Transformers, all silicone insulated, are furnished in light-duty 200 amp and heavy-duty, industrial ratings of 200, 300 and 400 amp.

Investigate these improved DC and AC Machines as well as M & T INERT ARC WELDERS and RECTIFIERS. They're all part of a complete line—Second to none!

METAL and THERMIT CORPORATION
100 East 42nd Street • New York 17, N. Y.
MUREX ELECTRODES • ARC WELDERS • ACCESSORIES

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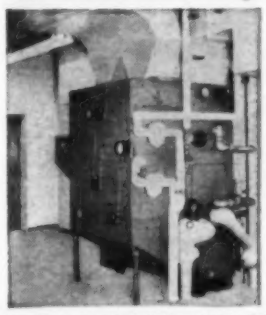
Control Atmospheric Conditions with Precision

•

Control of atmospheric conditions for tests and experiments, maintenance of standard conditions while working with hygroscopic materials, prevention of moisture damage to instruments or materials, improved drying processes . . . all are provided more easily and reliably with this new Niagara "Controlled Humidity" Method.

The equipment is simple, easily maintained and gives trustworthy, automatic operation. A liquid absorbent, "Hygrol", removes the moisture from the air directly so that refrigeration is needed only for sensible heat removal, saving equipment and operating expense.

Units provide capacities ranging from 1000 c. f. m. to 20,000 c. f. m. and require less space than conventional apparatus. Conditions are completely controlled at will in the temperature range from 34°F. to 140°F. and below 32°F. if required.

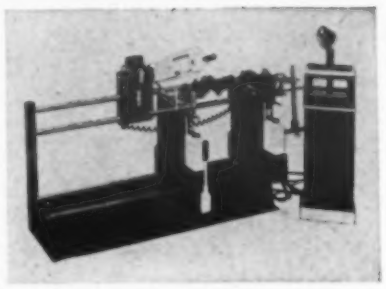


Write for Bulletin No. 112, address:

Niagara Blower Company, Dept. ED, 405 Lexington Ave, New York 17, N. Y.

▲ For more details circle NED-686 H3 on enclosed inquiry slip ▲

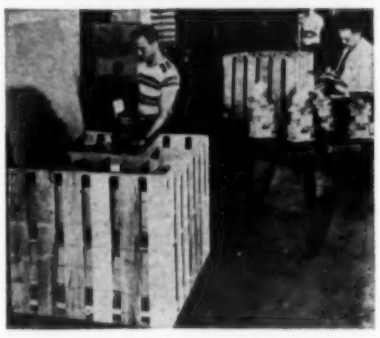
INDUSTRIAL BALANCER
has wide sensitivity range



Once high speed milling heads, cutters and grinding wheels are balanced on the Stewart-Warner industrial balancer, they do not cause vibration marks and can be operated at high speeds. It can also be used for balancing of crankshafts and other parts. Precision sensitivity is possible at all weights of items checked or balanced from range of ½ to 1000 lb. Length range is 4½ to 55 in. between bearing surfaces and diametral capacity is ½ to 44 in. Unit can be used for maintenance, job or production type work. Available from **Merrill Engineering Laboratories,** 1240 Lincoln St., Denver 3, Colo.

▲ For more details circle NED-689 H3 on enclosed inquiry slip ▲

WIREBOUND CONTAINER
design reduces handling duplication



Packed with parts assemblies from production, transported by fork-lift truck to inventory storage for stacking and later covered with a lid for shipping, this wirebound container functions as tote, storage, stacking and shipping box. Products handling from assembly to storage bin and then to shipping container has been eliminated by one large automotive parts manufacturer through its use. Illustration shows completed parts assemblies being packed into the container. Made by **American Box Co.,** 1917 W. Third St., Cleveland 13, O.

▲ For more details circle NED-690 H3 on enclosed inquiry slip ▲

WE BEG YOUR PARDON!

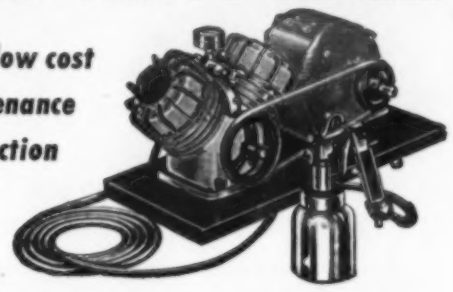
In the description of the turntable type deburring machine for jet turbine ring sections which appeared as item NED-486 F3 in the June 1953 issue, we erroneously stated that "Complete time cycle for loading, deburring and unloading a pair of 32-in. diameter aluminum half-rings is only one second." The time required for this cycle is actually "one minute." Previously used hand methods of deburring required an 8-hr day to finish a set of 24 half-rings. This machine does the job in 12 minutes. The machine is made by Grinding & Polishing Machinery Corp., 2530-G Winthrop Ave., Indianapolis 5, Ind.

▲ For more details circle NED-691 H3 on enclosed inquiry slip ▲

Speedy Sprayer

PORTABLE PAINT SPRAYERS

for low cost plant maintenance and production



Dozens of handy, money-saving uses for these portable SPEEDY SPRAYERS! Operate anywhere in or out of your plant beyond the reach of air lines. Rugged, powerful, sprays all materials. Or use as source of compressed air, as vacuum pump or to inflate tires, etc. Absolutely clean, oil-free air assured by proved diaphragm principle employing no oily pistons. Order SPEEDY SPRAYER from your mill supply house or write direct for free catalog.

MODEL 444—½ H.P.
Heavy duty master twin. Delivers 4 cu. ft. air per minute at 40 lbs. Operates with ½ H.P. motor or gas engine. Complete with gun, 15 ft. air hose, less motor, $66.00

MODEL 890—¼ H.P.
2 cu. ft. air per minute at 30-40 lbs. pressure, less motor, $36.50

No. 778 Utility Paint Container for above models, holds 3 gals. paint. $22.00

W. R. BROWN CORP.
2673 Normandy Ave., Chicago 35, Ill.

Specialists in Portable Sprayers for over 20 years

▲ For more details circle NED-693 H3 on enclosed inquiry slip ▲

Engineered MOLDED RUBBER PARTS

Serving the —
Aircraft
Automotive
Appliance
Machinery
Electrical & Electronic
Safety Equip.
Instrument
and other industries

ACUSHNET specializes in "precision" molded rubber parts engineered to specifications. Utilizing the most modern techniques our Engineering Staff constantly is developing new approaches to old problems. By ingenious mold designing and compounding, yesterday's skepticism of rubber for critical uses has changed to complete confidence in this versatile material for application in countless vital assemblies.

Acushnet PROCESS COMPANY

Send for your copy of the Acushnet Rubber Handbook.

Address correspondence to 782 Belleville Ave., New Bedford, Mass.

▲ For more details circle NED-687 H3 on enclosed inquiry slip ▲

WESPO

T-BOLTS

BOLSTER & T-SLOT TYPES TO J.I.C. PRESS ROOM STANDARDS

Forged precision machined heat treated. Tensile strength 150,000 lbs.

SIZES
BOLSTER BOLTS
—dia. to 1½" Heads sq. to 3" hex. to 2⅝" T-Slot bolts, ½", ⅝", ¾" dia. lengths to 12". 1" dia. 4" to 22" long.

NUTS—
hardened—threaded to close fit.
WASHERS—hardened — ground both sides.

Write for bulletin-prices

WEST POINT MFG. CO.
26945 W. 7 Mile Road Detroit 19, Mich.

▲ For more details circle NED-694 H3 on enclosed inquiry slip ▲

WAIT A MINUTE, MAC . . . Is That the Right Brush for the Job?

Specialized Fuller Bench Brushes Speed Up Cleaning . . . Reduce Labor Expense

Twenty-six different types: for dusting or washing; brushes resistant to oils; stiff brushes for coarse work and soft brushes for polished surfaces; non-shedding brushes with Fullergript backs; reversible brushes for 100% wear.

To make sure you have the *right* bench brush for quick work on *every* job, send for our new catalog with its handy reference to specifications. Write to:

INDUSTRIAL Fuller BRUSH CO. DIVISION

3530 MAIN STREET • HARTFORD 2, CONN.

Power driven brushes, Factory & Institutional cleaning tools, Waxes & Detergents

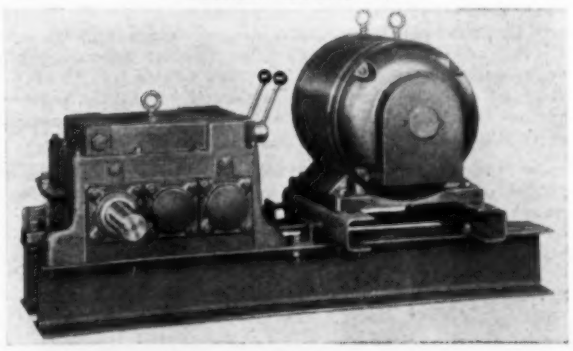
▲ For more details circle NED-688 H3 on enclosed inquiry slip ▲

TURNER

4-SPEED Transmission

from fractional HP through 60 HP

TURNER MOTOR ▼



Here is the answer to many power transmission problems. A four speed transmission in sizes from fractional HP through 60 HP. For use with any speed electric motor or engine. Available in a wide range of speed ratios including certain six and nine speed transmissions.

WRITE US TODAY — OUTLINE THE DESIRED OUTPUT SPEEDS, SIZE AND SPEED OF MOTOR OR ENGINE, A BRIEF DESCRIPTION OF YOUR PROBLEM AND WE WILL FORWARD COMPLETE DETAILS.

TURNER UNI-DRIVE CO.
3485 Terrace Street Kansas City 8, Mo.

▲ For more details circle NED-692 H3 on enclosed inquiry slip ▲

use AVERY Kum Kleen LABELS

• REDUCE LABELING COSTS
• ELIMINATE WASTE MOTION
• SPEED ASSEMBLY OPERATIONS

Because Avery labels are pressure sensitive, they're the fastest, easiest and most economical labels you can use...for nameplates and trademarks, for guarantees and instructions—for approval seals, diagrams and many, many other uses.

They can be supplied in any size, shape or color...on backing tape in roll or sheet form...to meet your own specific labeling requirements.

With Avery electric dispensers labeling is as much as 5 times faster than with ordinary methods!

You can save time and money by using these labels in YOUR business. Clip the coupon for FREE samples.

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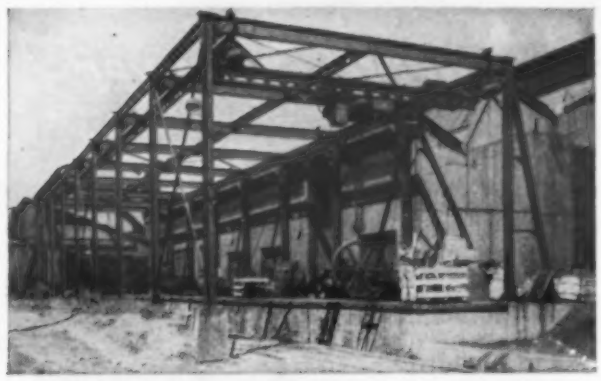
☐ Send us case histories & free samples
☐ Tell us about your dispensers
☐ Have the Avery Label Man call

Name.....
Company.....
Address.....
Our business is:.....

▲ For more details circle NED-695 H3 on enclosed inquiry slip ▲

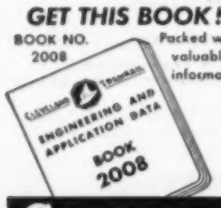


5 TON TRANSFER BRIDGE UNLOADS CARS AND TRUCKS . . . *Delivers Directly to Inside Building Without Rehandling*

This push-button-operated motor-driven bridge lifts loads up to 5 tons from trucks or railroad cars at any point along the loading dock. The bridge interlocks with the overhead rail at door enabling delivery of materials to and from points inside of building directly without rehandling. Speeds handling! Saves time! Cuts costs!

GET THIS BOOK!

BOOK NO. 2008 — Packed with valuable information



CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6626 East 285th St., Wickliffe, O.

CLEVELAND TRAMRAIL

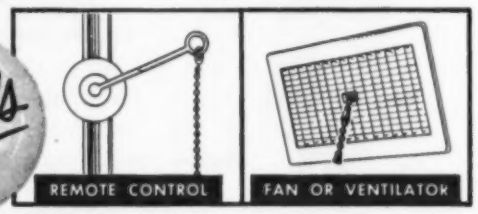
For more details circle **NED-696 H3** on enclosed inquiry slip

DOES SO MANY THINGS ... *so much Better!*

Versatile **BEAD CHAIN**

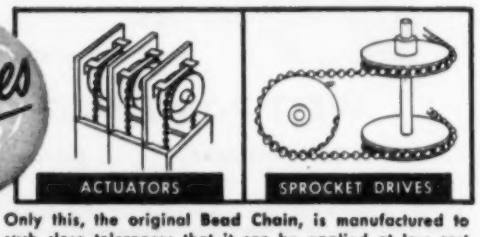
There are literally thousands of useful applications of BEAD CHAIN to all types of products, machines and tools! Consider how you may be able to take advantage of its versatility too! It pays dividends!

it Pulls



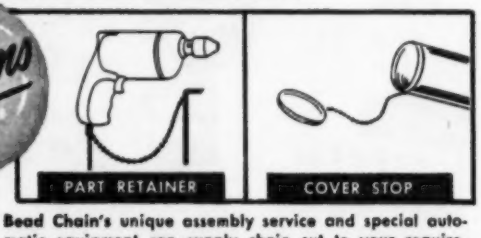
Bead Chain is available in 5 diameters from 3/32" to 3/8" with tensile strength ranging from 18 to 200 lbs. No matter what the requirement, our engineers can fill your need.

it Drives



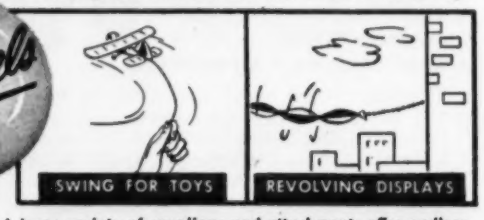
Only this, the original Bead Chain, is manufactured to such close tolerances that it can be applied at low cost to V-type or positive, non-slip sprockets. (Sprocket sources for your needs available on request.)

it Fastens



Bead Chain's unique assembly service and special automatic equipment can supply chain cut to your requirements, complete with attachments, at a substantial saving.

it Swivels



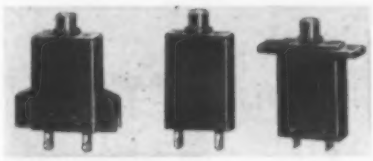
A large variety of couplings and attachments offer endless opportunities to design engineers to adopt Bead Chain without the necessity of special tooling and production.

THE BEAD CHAIN MANUFACTURING CO.
BRIDGEPORT 5, CONN.
Send Me the Bead Chain Catalog.
NAME ..... TITLE .....
COMPANY .....
ADDRESS .....
KEY NO. 16

THE BEAD CHAIN MANUFACTURING CO., BRIDGEPORT 5, CONN.
Original and World's Largest Producer of Bead Chain

For more details circle **NED-697 H3** on enclosed inquiry slip

CIRCUIT BREAKERS
miniature single pole thermal type



Designed for protection of alternating current motors, instruments and electrical and electronic equipment, thermal single-pole miniature overcurrent circuit breakers measure approximately 2.44 x 1.221 x 0.571-in. Weight is about 1½ oz. Features include steatite base, Bakelite case, simple release mechanism, rapid restoration of circuit after operation and maximum voltage rating of 250 v ac and 24 v dc. Current ratings are from 80 ma to 25 amp. If prospective short-circuit current does not exceed 6 amp, breaker can be used for 230 v dc. Distributed by **E-T-A Products Co.**, Dept. E, 915 W. Oakdale Ave., Chicago 14, Ill.

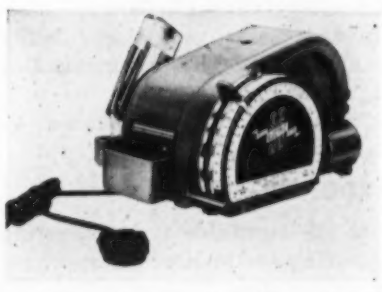
For more details circle **NED-698 H3** on enclosed inquiry slip

FURNACE POTS
pressed steel metallized type

For heat treating furnaces, these pressed steel pots are available with three different types of metallized coating for temperatures up to 1500° F, from 1500° to 1700° F and for 1700° F and over. Coatings increase equipment life by protecting pressed steel surfaces against heat oxidation and scaling. All standard pot sizes are available for immediate delivery from stock. Made by **Eclipse Fuel Engineering Co.**, 1002 Buchanan St., Rockford, Ill.

For more details circle **NED-699 H3** on enclosed inquiry slip

TAPING MACHINE
dispenses variable lengths of tape



Built with high carbon - manganese steel guillotine knife cutters, high speed motor and worm gear drive, the model 88 Tayper eliminates guessing how much tape is required to seal a package. Length and width is measured, 5 in. added to each, and the machine's Tape-Mizer is set to the desired length. It permits an unlimited selection of tape lengths from 6 to 70 in., or longer by keeping the trip lever compressed. Standard diameter rolls of any kind of tape from 1 to 4 in. can be accommodated. Machine has automatic moistening control and foot pedal dispensing. Made by **Nashua Corp.**, 36 Franklin St., Nashua, N. H.

For more details circle **NED-700 H3** on enclosed inquiry slip

HINGED PLATEGRIP
BELT FASTENER No. 500
For Heavy Conveyor Belts of changing length

These heavy-duty belt fasteners make a strong, flexible joint in conveyor belts, belts of any width and of from ⅜" to ½" thickness. They offer special advantages in mines, quarries or industrial set-ups where length of position of belt is frequently changed, because sections can be removed or added at will. Joints are opened for this purpose by simply pulling out the hinge pin.

Easily and quickly applied on the job or in the shop. Special design gives deep compression into belting and smooth, flush joint.

Write for Circular

ARMSTRONG-BRAY & CO.
5362 NORTHWEST HIGHWAY CHICAGO 30

For more details circle **NED-701 H3** on enclosed inquiry slip

Aeroquip
HOSE AND FITTINGS
matched for guaranteed performance

A small supply of Aeroquip Bulk Hose and Fittings assures quick hose line replacements at all times. Aeroquip Fittings are detachable and may be used again and again.

AEROQUIP CORPORATION, JACKSON, MICHIGAN

FLEXIBLE HOSE LINES • DETACHABLE, REUSABLE FITTINGS • SELF-SEALING COUPLINGS • BREAKAWAY COUPLINGS • HYDRAULISCOPE
AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD

For more details circle **NED-702 H3** on enclosed inquiry slip

The Simplest — Most Convenient Way to Run D-C Motors from A-C Lines
the Variac Motor Speed Control

- ★ Extra Fast Start - Stop Reverse
- ★ Speed Ranges 5-10 rpm to 15% Above Rated
- ★ No Electronic Rectifiers — No Warm-Up Time — Always Ready for Instant Operation
- ★ No Jumpiness Even at Lowest Speeds
- ★ High Starting Torque
- ★ Regulation Good
- ★ Simple Installation — at or ON Machine if Desired
- ★ Easy Maintenance
- ★ Low First- and Operating-Cost

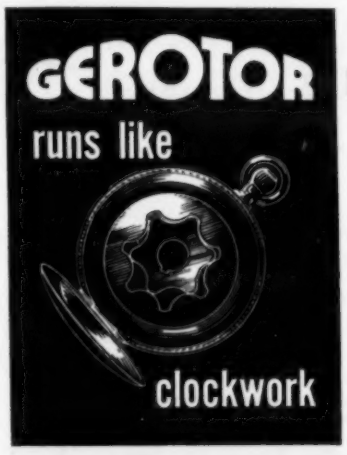
4 MODELS from 1/15 hp or less to 3/4 hp D-C Motors

Write for VARIAC Speed Control Bulletin

GENERAL RADIO Company 275 Massachusetts Ave. Cambridge 39, Mass.
90 West St. NEW YORK 6 · 920 South Michigan Ave. CHICAGO 5
1000 North Seward St. LOS ANGELES 38

For more details circle **NED-703 H3** on enclosed inquiry slip

the GEROTOR mechanism runs like clockwork



because it's PRECISION engineered

In every GEROTOR pump, precisely paired gear-shaped elements transmit power from the shaft with high efficiency. These elements, revolving in the same direction at low relative speed, constitute the unique GEROTOR mechanism . . . famed for long life, less wear, less slippage, dependably smooth performance. Gerotor May Corp., Baltimore 3, Md.

GEROTOR hydraulic pumps

For more details circle **NED-704 H3** on enclosed inquiry slip

TYPE F43A

A DUAL SWITCH THERMOSTAT FOR USE FROM -150° F to +600° F

Manufacturers with thermal control problems similar to those encountered in water baths, industrial ovens, hot plate presses, coffee roasters and heating equipment should investigate the Type F43A dual switch thermostat. It is a precision-built temperature control available with a wide variety of thermal assemblies and switches for use between -150° F and +600° F. It can control two separate circuits simultaneously as required, for instance, in an air conditioning system where a fan control and compressor control are required.

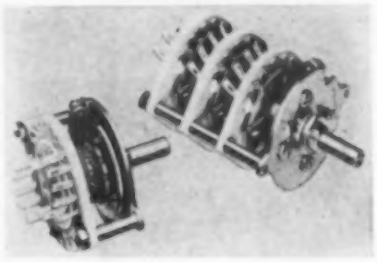
Write for bulletin #3-4 which gives full specifications.

UNITED ELECTRIC CONTROLS COMPANY
81 School Street, Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

For more details circle NED-705 H3 on enclosed inquiry slip

TAP SWITCH
features low loss, minimum creepage



Ceramic insulated for low loss and minimum creepage, type 2C tap switches have constant contact resistance of only 1 or 2 milliohms. Contact material is silver alloy, and laminated wiper arm is self-cleaning, shorting or nonshorting. Number of contacts can be from 2 to 24 single-pole, 2 to 11 double-pole, or 2 to 5 triple-pole all either shorting or nonshorting. Spacing is 15 or 20 degrees, with one to four poles per deck. Maximum operating voltage is 120 v ac. Made by **Tech Laboratories, Inc.,** Palisades Park, N. J.

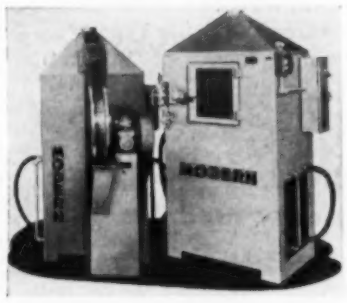
For more details circle NED-708 H3 on enclosed inquiry slip

SOLDERING TIPS
rare metal prolongs life

Plated soldering tips have been given greatly increased life by electro-chemically cladding soldering coppers with rare metals. Molecular bond formed by process is called Eternalloy cladding. Tip life is at least 300 hours under sustained use. Company will also continue to make present line of plated tips. Made by **American Electrical Heater Co.,** 6111 Cass Ave., Detroit 2, Mich.

For more details circle NED-709 H3 on enclosed inquiry slip

DEBURRING MACHINES
soft blasting technique utilized for production work on soft metals



Designed to remove light burrs from metals between the hardness range of aluminum and mild steel, two standard Maizo machines blast maize or a similar "soft" material against the parts at airline pressures. Units are suitable for deburring parts that might be damaged by tumbling. Model MA-24 utilizes a rotating ferris-wheel type fixture to hold parts and deburrs 192 to 288 pieces an hour. Independent ½-hp motors drive the parts fixture and the reciprocating and oscillating arms which hold the blasting guns.

Model MA-1 handles larger parts such as impeller housings and rotors, and can be supplied with two, four or six guns which will set at any required angle. A single ½-hp motor and speed reducer supply power for this unit. Made by **Modern Industrial Engineering Co.,** 14230 Birwood Ave., Detroit 4, Mich.

For more details circle NED-710 H3 on enclosed inquiry slip

with Veelos on your machines v-belt adjustment is a production-saving job

ALL V-BELTS STRETCH. With endless v-belts there's nothing you can do to take up this stretch once the motor has been "run-out". But with Veelos the adjustment is in the belt itself—even sliding motor bases are unnecessary.

Changing the length of each Veelos v-belt by just adding or removing links is the best, most efficient, way to keep the belts correctly matched. Using Veelos means that the job of adjustment is done easily and quickly... with the least amount of machine down-time.

Write for your copy of the Veelos Data Book—it gives file-worthy product and engineering facts which you should have handy. We'll be glad to send you a copy.

VEELOS THE LINE V-BELT

MANHEIM MANUFACTURING AND BELTING CO.
650 Manbel Street, Manheim, Pa.

Adjustable to Any Length • Adaptable to Any Drive

For more details circle NED-712 H3 on enclosed inquiry slip

For HIGHEST ELECTRICAL & MECHANICAL Efficiency!

New JONES 2400 SERIES PLUGS & SOCKETS

P-2406-CCT Plug — with cable clamp in top.

Improved Socket Contacts. Four individual flexing surfaces. Positive contact over practically their entire length.

Both Plug and Socket Contacts mounted in recessed pockets greatly increasing leakage distance, INCREASING VOLTAGE RATING.

Plug and Socket Contacts cadmium plated. Add to appearance of your equipment.

Interchangeable with Jones 400 Series.

Ask for Catalog 18. Complete line Jones Plugs, Sockets, Terminal Strips.

S-2406-SB Socket with shallow bracket for flush mounting.

Jones HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

For more details circle NED-706 H3 on enclosed inquiry slip

KEYNOTES

"Somebody ought to tell them about KEY-TITE, the perfect waterproof sealer for pipe joints carrying water, gas, low-pressure steam."

Write for FREE Sample

SEALS TIGHT... BREAKS RIGHT!

A Product of KEY COMPANY

2601 McCausland Ave. • East St. Louis, Ill.

For more details circle NED-707 H3 on enclosed inquiry slip

BOLTS NUTS RIVETS SCREWS

The Name Clark . . . a 99 year old part of America's heritage, has always been known to be dependable . . . "For Greater Security Fasten Fast with Clark Fasteners".

Clark products are yours for *dependability* and yours for *workability*.

They *work* with you and *work* for you.

Uniformity of Quality and Finish have made the name Clark outstanding. For information write to 135 Canal Street.

CLARK BROS BOLT CO.
MILLDALE, CONN.

6-0-2

Export Dept.: Suite 513
25 Beaver St., N. Y. 4, N. Y.
WHitehall 4-4392

For more details circle NED-711 H3 on enclosed inquiry slip

STANDARDIZE On this "Packing Package"

. . . for Trouble-free Hydraulic Service

Now, the United States Gasket Company offers you one source of supply and undivided responsibility in a complete line of synthetic rubber "O" Rings and companion Teflon* Back-up Rings for all military and commercial requirements.

- **CHEMISEAL "O" RINGS** of resilient, homogeneous synthetic rubber are absolutely non-porous and withstand a wide temperature range. They are available in both commercial and AN compounds.
- **CHEM-O-GREEN BACK-UP RINGS** are made of chemically inert duPont Teflon, colored green for identification purposes. They are made in three types, solid rings, split rings and the popular improved spiral type which adjusts itself to the groove and, on compression, becomes in effect, a solid ring of the required diameter and thickness.

The advantages of Chem-o-green (Teflon) Back-up rings are many.

Chemical inspections may be eliminated as Teflon is non-corrosive. Zero swelling in all hydrocarbons or newer synthetic hydraulic fluids or solvents. Service temperature range from minus 110° F to 500° F. Unsurpassed anti-friction properties. Waterproof, non-flammable. Long wearing. Requires no water-soak for installation.

Write for Bulletin OB-1152.

*duPont Trademark

UNITED STATES GASKET COMPANY

FLUOROCARBON PRODUCTS DIVISION
CAMDEN 1, NEW JERSEY
Representatives in Principal Cities Throughout the World

For more details circle NED-713 H3 on enclosed inquiry slip

AGASTAT

Compact . . . Dust-Proof

TIME DELAY RELAYS

solenoid actuated—pneumatically timed

Introduces time delays into a-c or d-c circuits. Easily adjusted to provide delays ranging from 0.1 second to five or more minutes.

The AGASTAT is small, light, and operates in any position. Dust-proof timing chamber assures long operating life with a minimum of maintenance.

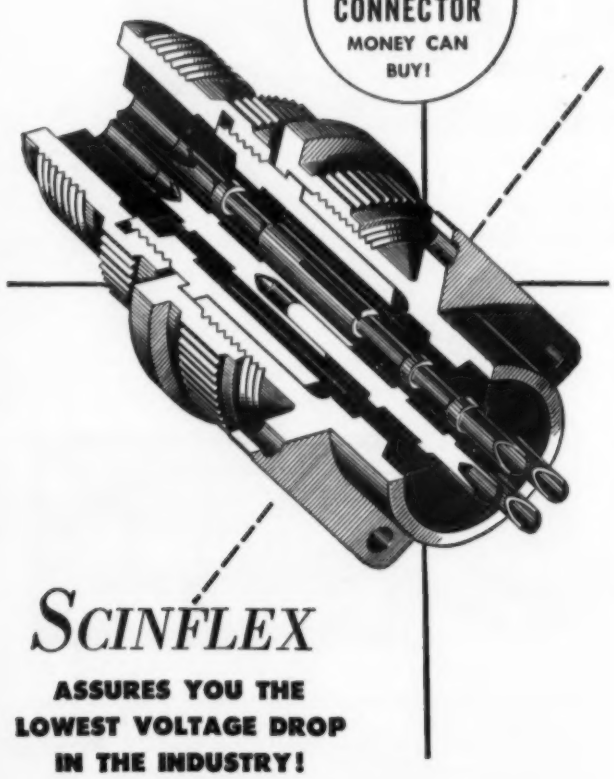
Write for Bulletin. Dept. A1- 85,

AGA

Division of Elastic Stop Nut Corporation of America
1027 Newark Avenue, Elizabeth 3, New Jersey

▲ For more details circle NED-714 H3 on enclosed inquiry slip ▲

The Finest ELECTRICAL CONNECTOR MONEY CAN BUY!



SCINFLEX

ASSURES YOU THE LOWEST VOLTAGE DROP IN THE INDUSTRY!

When operating conditions demand an electrical connector that will stand up under the most rugged requirements, always choose Bendix Scinflex Electrical Connectors. The insert material, an exclusive Bendix development, is one of our contributions to the electrical connector industry. The dielectric strength remains well above requirements within the temperature range of −67°F to +275°F. It makes possible a design increasing resistance to flashover and creepage. It withstands maximum conditions of current and voltage without breakdown. But that is only part of the story. It's also the reason why they are vibration-proof and moisture-proof. So, naturally, it pays to specify Bendix Scinflex Connectors and get this extra protection. Our sales department will be glad to furnish complete information on request.

• Moisture-Proof • Radio Quiet • Single Piece Inserts • Vibration-Proof • Light Weight • High Insulation Resistance • High Resistance to Fuels and Oils • Fungus Resistant • Easy Assembly and Disassembly • Fewer Parts than any other Connector • No additional solder required.

BENDIX SCINFLEX

ELECTRICAL CONNECTORS

Bendix

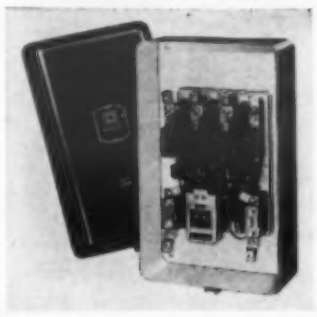
SCINTILLA MAGNETO DIVISION of
SIDNEY, NEW YORK

Bendix AVIATION CORPORATION

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.
FACTORY BRANCH OFFICES: 118 E. Providencia Ave., Burbank, Calif. • Stephenson Bldg., 6560 Cass Ave., Detroit 2, Michigan • Brouwer Bldg., 176 W. Wisconsin Avenue, Milwaukee, Wisconsin • 582 Market Street, San Francisco 4, California

▲ For more details circle NED-715 H3 on enclosed inquiry slip ▲

VERTICAL ACTION STARTER
parts front mounted for accessibility



Featuring front mounted parts for accessibility and easy maintenance, new NEMA size 4 vertical action starter has maximum polyphase ratings of 50 hp, 220 v and 100 hp, 440 to 550 v. Overall dimensions are 9¼-in. wide, 14¾-in. high and 7 3/16-in. deep. Double-break silver contacts do not require filing or dressing and eliminate flexible jumpers and pivots. The armature has straight line motion, guided top and bottom. As many as eight electrical interlocks can be added to the starter, four normally open and four normally closed. Made by **Square D Co.**, 4045 N. Richards St., Milwaukee 12, Wis.

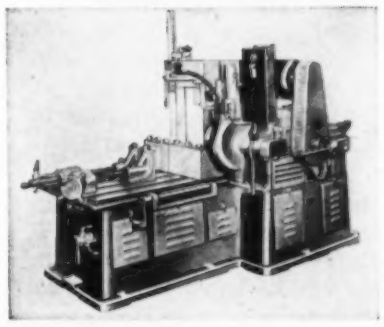
▲ For more details circle NED-716 H3 on enclosed inquiry slip ▲

WIRING HARNESS
made to specifications

All types of wiring harnesses for washing machines, dryers, vending and amusement machines and industrial and armed forces equipment can be made to specifications. Illustration shows harness for an electric clothes washer. Company services include complete assembly, taping, terminalizing and circuit identification with colored wires and other type markings. Made by **Cherry-Channer Corp.**, 42 N. Skokie Blvd., Highland Park, Ill.

▲ For more details circle NED-717 H3 on enclosed inquiry slip ▲

HACK SAW MACHINE
improved heavy-duty model



Many design changes have been made in this Peerless 18 x 18—10 x 24-in. capacity heavy-duty hydraulic hack saw machine. Improved hydraulic system gives smooth and accurate feed control, larger lift on the relief or noncutting blade stroke, and results in better chip removal and cut accuracy. All slide bearings are lined with hardened and ground replaceable inserts; antifriction and ball or roller bearings are fitted throughout; and the reciprocating motion of the saw frame is counterbalanced and compensated by an air cylinder. A typical performance of the new model is the cutting of 225 sq in. of type 410 15 x 15-in. stainless steel in an average time of 90 minutes per cut, or at the rate of 2½ sq in. a minute. Made by **Peerless Machine Co.**, Dept. N, 1600 Junction Ave., Racine, Wis.

▲ For more details circle NED-718 H3 on enclosed inquiry slip ▲

SIGNAL ALARM UNIT
hermetically-sealed, plug-in type

Over 100 variations in sequences are possible with model 400 Tel-A-Unit self-contained signal alarm which utilizes single unitized hermetically sealed or general purpose plug-in units. Horn silencing and lamp reset buttons are integrally mounted on alarm housing. Alarm can have backlighted engraved name plates, or turret lenses or bulls-eye type for two-lamp sequences. Any number of units can be wired together on same panel to one common power supply and horn. All power supply, horn and field trouble contact wiring is grouped in unit terminal housing. Made by **Tigerman Engineering Co.**, Dept. NE, 4332 N. Western Ave., Chicago 18, Ill.

▲ For more details circle NED-719 H3 on enclosed inquiry slip ▲

LOWEST COST PRECISION
FOR TOOL ROOM AND PRODUCTION

ONE PORTABLE MULTI-PURPOSE PRECISE GRINDER-MILLER WITH MACHINE TOOL MOUNT DOES THE WORK OF A SINGLE-PURPOSE MACHINE COSTING 100 TIMES AS MUCH!

Little can be done today to reduce labor and material costs. For substantial savings employ new, better techniques. Mount PRECISE Grinder-Millers on lathes, drill presses, milling machines and other machine tools or use in special production set-ups. ¼ HP; speeds from 20,000 to 45,000 r.p.m.; 115 volts, AC-DC. Ruggedly built for continuous duty. All metal housing; rigid PRECISE quill; sealed micro-precision bearings. *High speeds and accurate PRECISE quill and chuck are ideal for tungsten carbide cutters.* PRECISE will grind, mill or finish any material from soft wood to the hardest alloy steel.

Write FOR NEW CATALOG

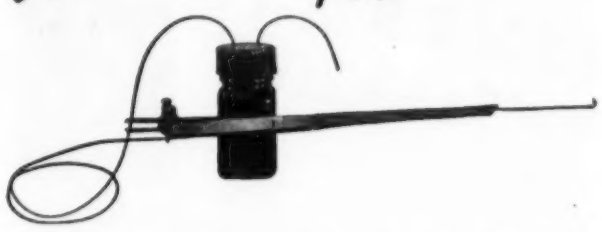
PRECISE PRODUCTS CORP. 1346 Clark St., Racine, Wis.

Precise GRINDER-MILLERS

▲ For more details circle NED-720 H3 on enclosed inquiry slip ▲

ARCCO *NEVER-DRY* **PEN**

Writes for Months



REPLACES OTHER MAKES • USES REGULAR INKS

Regardless of pulsations or other causes of ink failures this new Never-Dry Pen will make clean and complete records. Ink supply lasts for several months without refilling reservoir. Capillary tube from ink bottle placed in instrument case feeds pen with continuous flow. Closed system sealed from atmosphere prevents clogging and dirt accumulation.

Weight of pen is constant at all times thus insuring extreme accuracy. No slopping or dripping. Stainless steel construction—no corrosion. When ordering, specify make and type of recording instrument.

AMERICAN RECORDING CHART CO.
3113 E. 11th St. • Los Angeles 23, Calif.

$6.00 each Net
Send for quantity prices

▲ For more details circle NED-721 H3 on enclosed inquiry slip ▲

standardize on standard

HALLOWELL WORK BENCHES

HALLOWELL FEATURES

- Sturdy, rigid—require no bolting to floor
- 4 lengths, 3 widths, 3 heights—all standard
- 3 top materials—steel, Presdwood on steel, laminated wood
- Use them as single units or continuous benches of any length
- Functional design, neat appearance

Standardized construction with *standard* accessories permits you to *custom build* HALLOWELL benches to fit your requirements. Stocked and sold by industrial distributors. Write for literature. SPS, Jenkintown 24, Pa.

Our Fiftieth Year : A START FOR THE FUTURE

HALLOWELL SHOP EQUIPMENT DIVISION

SPS
JENKINTOWN PENNSYLVANIA

▲ For more details circle NED-722 H3 on enclosed inquiry slip ▲

INCREASE HEATING EFFICIENCY

LOWER HEATING COSTS

with CHROMALOX Electric HEATERS

EASY TO INSTALL • ECONOMICAL TO USE

Want the quick, low cost answer to almost any heating problem in your plant? Get it with Chromalox Electric Heaters! Over 15,000 types and sizes for heating dies, molds, platens; for preheating oil and superheating steam; for heating asphalt, greases, oils; for drying, curing, baking, dehydrating and other heating jobs. See how Chromalox Electric Heat can help cut your costs!

THIS CATALOG may be worth money to you

Write today for your copy.

12-36

EDWIN L. WEIGAND CO., 7509 Thomas Blvd., Pittsburgh 8, Pa.

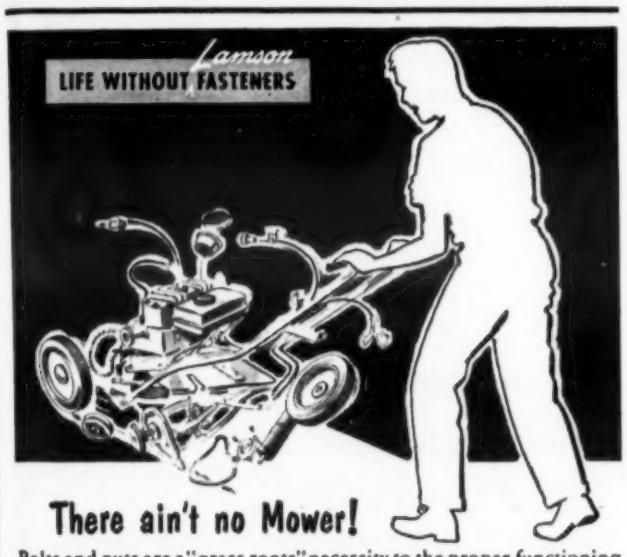
See other ad on pg. 4

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

▲ For more details circle NED-723 H3 on enclosed inquiry slip ▲

Lamson LIFE WITHOUT FASTENERS



There ain't no Mower!

Bolts and nuts are a "grass roots" necessity to the proper functioning of most mechanical products. Take away the bolts and nuts from a motor lawn mower, for instance, and literally "There Ain't No Mower"!

But in spite of their importance, the cost of the fasteners that go into a *single unit* of any product represent a small percent of its total manufacturing cost.

So it's just plain, good common sense always to use bolts and nuts you *know* are dependable as well as economical.

Lamson & Sessions, with 87 years of experience supplying industry with the best in fasteners, offer you unexcelled facilities to meet your bolt, nut and screw requirements.

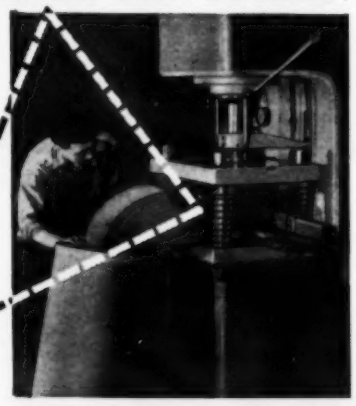
Remember, it's *pleasant* and *profitable* to do business with Lamson & Sessions.

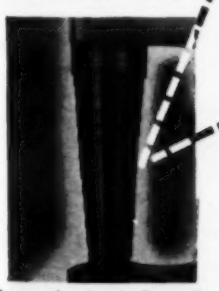
The LAMSON & SESSIONS Co.
1971 West 85th Street • Cleveland 2, Ohio
CLEVELAND AND KENT, OHIO • BIRMINGHAM • CHICAGO

▲ For more details circle NED-724 H3 on enclosed inquiry slip ▲

DIE LIFE INCREASED 25% with ELASTICONE GUIDE PIN COVERS

Get increased performance from Dies with Elasticone Guide Pin Covers. Protects pins and bushings from nicks and scratches . . . preserves Dies' accurate alignment . . . reduces lubrication and maintenance. JUST SNAP INTO PLACE! *No Installation Costs!*





Elasticones are manufactured in stock sizes. Specify O.D. of bushing and full open height of set when ordering.

Investigate today the many new cost-saving engineering advantages in die designing with Elasticones.

Write for full information and literature.

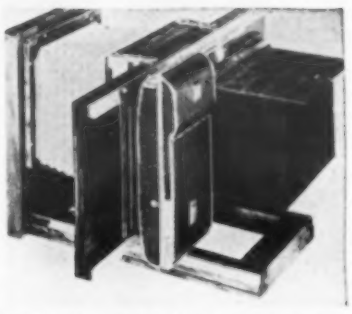
CENTRAL

2208 EAST HUNTINGDON ST. PHILA. 25, PA.

CENTRAL SAFETY EQUIPMENT COMPANY

▲ For more details circle NED-725 H3 on enclosed inquiry slip ▲

VIEW CAMERA ATTACHMENT
for Polaroid Land or split film



By equipping certain 5 x 7 in. and 8 x 10 in. view cameras with the corresponding size of Polaroid Land camera back, these cameras can be adapted to develop photographs "on the spot." With the 8 x 10-in. attachment, for instance, two pictures can be made: Polaroid 3¼ x 4¼ in. and regular split 5 x 7 in. (3¼ x 5 in.) A shift-over arrangement is made so that focusing is on a regular ruled 5 x 7-in. ground glass through the four-sided hood from back of the lens. Available from **Burke & James, Inc.**, 311 S. Wabash Ave., Chicago 4, Ill.

▲ For more details circle NED-726 H3 on enclosed inquiry slip ▲

HYDRAULIC JACK
55-lb unit has 35-ton capacity

Automatic air vent which eliminates 90 per cent of "air lock" difficulty is one of many features of this 35-ton capacity hydraulic jack which weighs only 55 lb. Air vent screw and adjustments are eliminated along with usual fluid leaking point. Single pump with long stroke gives rapid lift with relatively little pumping motion. Made by **Duff-Norton Mfg. Co.**, 2710 Preble Ave., Pittsburgh 30, Pa.

▲ For more details circle NED-727 H3 on enclosed inquiry slip ▲

ELECTRIC MASTER SWITCH
waterproof, for shipboard service

Pedestal mounted and waterproof electric master switch is designed for shipboard use with capstan, windlasses, winches and other hoisting equipment where wide control range is required. Unit which also has industrial applications, provides up to five points of speed control in hoisting and lowering. Features include corrosion resistant enclosure, bronze operating lever and shaft bushings, O-type shaft seals and permanently marked identification. Unit conforms with AIEE specifications No. 45. Made by **Marine Mfg. & Supply Co.**, P. O. Box 750, New Brunswick, N. J.

▲ For more details circle NED-728 H3 on enclosed inquiry slip ▲

FAMOUS "CHEM-BOARD"* CONVOY TOTE BOXES

*Chemically Hardened Corrugated Board

SOLD THROUGH LOCAL INDUSTRIAL DISTRIBUTORS

Cost—weigh—50% to 60% less than steel. A wide range of sizes in standard and custom made NESTING, STACKING, VERTICAL TOTE BOXES. Write for complete information, prices, name of distributor in your area.

CONVOY RECORD STORAGE FILES
Sold Only by YOUR LOCAL STATIONER

Used by most famous names in industry and businesses of all kinds. CONVOY "CHEM-BOARD" files for record storage made in letter, legal, and 12 other sizes. Stack to ceiling, mate together. Call your local stationer or write for name of stationer nearest to serve you.

CONVOY, INC.
Canton 6, Ohio
P. O. Station B, Box 216-N

▲ For more details circle NED-729 H3 on enclosed inquiry slip ▲

PRODUCT SAVER
MAN SAVER
FLOOR SAVER

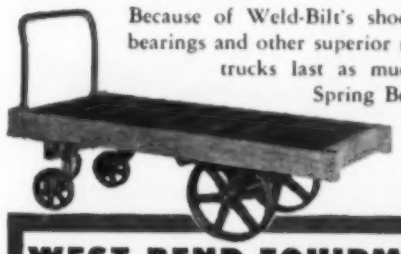
Special tempered spiral springs keep load level while absorbing shocks of an uneven floor.

Weld-Bilt

SPRING BEARING TRUCKS

Here's the answer to your problem of moving materials more efficiently, with maximum protection to product, trucker and floor.

On Weld-Bilt Spring Bearing trucks, your materials move without jarring or vibration. Your truckers work faster and easier, with less fatigue. Floor drains and door sills are protected against damage, as wheels "step" over obstruction.



Because of Weld-Bilt's shock-absorbing spring bearings and other superior mechanical features, trucks last as much as 50% longer. Spring Bearings are featured on Weld-Bilt platform trucks of all styles and designs. Write for bulletin.

WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 WATER STREET, WEST BEND, WISCONSIN

▲ For more details circle NED-730 H3 on enclosed inquiry slip ▲

ALEMITE OIL-MIST

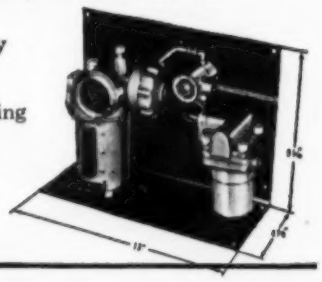
Saved $2400 first year

. . . extended bearing life from 20 weeks to one year and four months

Eastern Textile Mill Breaks Bottleneck, Cuts Downtime, Ups Production!

Bearing temperatures were running 200° on an important blower. Production losses totaled $1000 with each frequent bearing failure. After careful study of the problem, management installed an Alemite Oil-Mist unit costing little more than $100. Result: No bearing failures; downtime eliminated! $2400 *saved* to date!

Alemite Oil-Mist is a fully automatic system which atomizes oil into mist . . . distributes it through tubing to bearings . . . applies a constant uniform oil film to groups of bearings designed either for oil or grease lubrication.



delivers oil to bearings 3 ways

1. Oil-Mist as Such. For any type of anti-friction bearing—ball, roller or needle.

2. Oil in Spray Form. For open and enclosed gears and chains. Nozzle partially condenses mist so that it can be directed onto a concentrated area.

3. Oil-Mist Condensed. For plain bearings, slides, ways, vees, cams and rollers. In these applications, condensing fittings convert oil mist to liquid oil.

Get the facts NOW!

Let us send you the complete story on Oil-Mist. Specifications, models, typical applications, actual case histories. Get yours now. Write Alemite Division of Stewart-Warner, Dept. NED-83, 1850 Diversey Parkway, Chicago 14, Illinois.

▲ For more details circle NED-731 H3 on enclosed inquiry slip ▲

The Simplest Way to

SOLVE SCALE PROBLEMS

PATS. APPLIED FOR

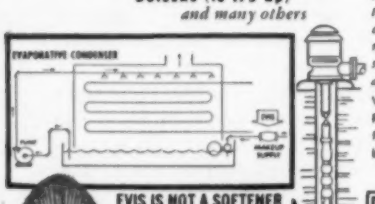
"bet bet you!"

Proven Uses Include
ALL PIPING SYSTEMS
CONDENSERS (most types)
COOLING TOWERS
ENGINES & COMPRESSORS
CUBE & FLAKE ICE MAKERS
BOILERS (to 175 wp)
and many others

EVIS Water Conditioners are helping industry conquer its costly scale problems. Plant equipment is made to operate at higher efficiency. Maintenance costs are profitably lowered and shut-downs for periodic cleanups are often entirely eliminated. The EVIS units are Specially Processed to impart a continuous catalytic action on water-solids flowing through it. This action alters physical behavior sufficiently to inhibit most scale formations. Many thousands of EVIS Water Conditioners are now in service.

Write for further information or ask your Plumbing Supply, Air-Conditioning-Refrigeration or Industrial Equipment Jobber.

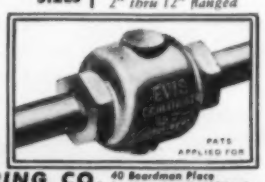
SIZES | ⅛" thru 2" screwed; 2" thru 12" flanged



EVIS IS NOT A SOFTENER

Flow Line Type Available for Deep Well Pumps

SOLD ON 90-DAY MONEY-BACK GUARANTEE



PATS. APPLIED FOR

EVIS MANUFACTURING CO. 40 Boardman Place San Francisco 3, California

FRANCHISED REGIONAL DISTRIBUTORS

WHITTIER (Calif.) KEN-EVIS COMPANY
SAN BERNARDINO (Calif.) KNUPPE & WRIGHT
SAN FRANCISCO NORTH EVIS AGENCY
RENO WATER CONDITIONED SALES CORP.
SEATTLE EVIS-NORTHWEST
CHICAGO EVIS-GREAT LAKES COMPANY
OMAHA EVIS-MIDWEST, INC.
DALLAS EVIS-SOUTHWEST CO.
ATLANTA EVIS-SOUTHEAST CO.
PHILADELPHIA EVIS-MIDEAST CO.
ALBANY (New York) EVIS-NORTHEAST CO.
EXCLUSIVE MARINE DIST. MORAN-EVIS CO. SAN FRANCISCO

▲ For more details circle NED-732 H3 on enclosed inquiry slip ▲

Sprocket Savings!

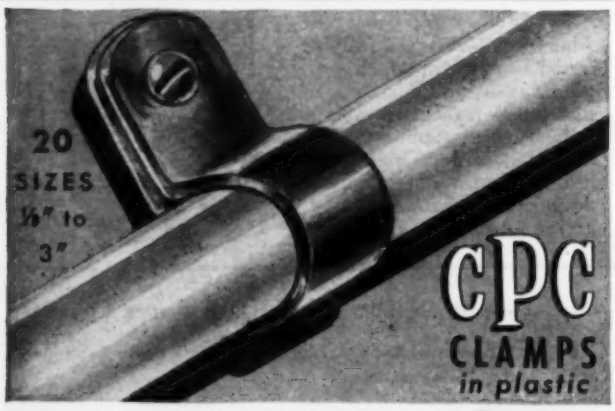
Get this *NEW* SPROCKET CATALOG SUPPLEMENT SC-2

Complete buying information on Standard Sprockets and on new line of SHOLD-A-GRIP Interchangeable Tapered Bushings and Sprockets . . . also Chain, and new Chain Breaking Tool.

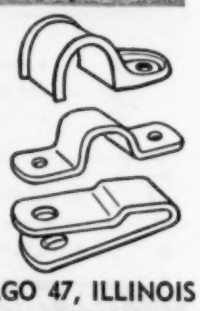
ASK YOUR BOSTON gear DISTRIBUTOR

for the new Sprocket Catalog, or write Boston Gear Works, 69 Hayward St., Quincy 71, Mass.

▲ For more details circle NED-733 H3 on enclosed inquiry slip ▲



TOUGH . . . Enduring



Safer, Simpler, faster, more secure. For cables, thin-wall tubing, wires, conduits, light hose. *No shorts! No tearing! No corrosion!* Wide variety shapes, styles, sizes and materials. Write today:

2818W. NORTH AVE. • CHICAGO 47, ILLINOIS

COMMERCIAL PLASTICS CO.

▲ For more details circle NED-734 H3 on enclosed inquiry slip ▲

BOX STITCHER
drives two staples at once

Driving and clinching two staples 2½-in. apart with each stroke and having rated speed of 250 strokes a minute, this heavy-duty duplex-head box stitcher is designed for continuous high speed stapling of large corrugated and solid fiber cartons. A throat depth of 25 in. makes it possible to staple containers up to 4-ft wide. Three models are available. Model JGU is equipped with bottoming post for closing carton bottoms, model JU has an arm stitcher for use in making up large cartons, and model JGUH is a combination arm and bottom stitcher combining the functions of the other models. Made by **Bostitch,** 1009 Mechanic St., Westerly, R. I.

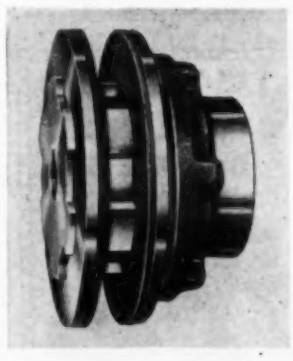
▲ For more details circle NED-735 H3 on enclosed inquiry slip ▲

CONVEYOR Y-SWITCH
rotates to make line selection

Rotation of the Flip Switch, an accessory for connecting a two-way belt conveyor with either of two wheel conveyor lines, makes possible quick change of material flow direction. Device incorporates two gravity wheel sections mounted back to back in a rigid frame, with the entire assembly pivoted at both ends. In one position it connects with a line to flow goods away from the belt unit, while in the other position it matches the pitch of a line flowing goods back to the belt unit. Accessory is offered in either spur or Y-switch design for use with 18-in. width wheel conveyor. An automatic case stop, actuated by rotating the switch, holds goods back until the unit is in operating position. Made by **Rapids-Standard Co.,** Dept. FS, 342 Rapistan Bldg., Grand Rapids 2, Mich.

▲ For more details circle NED-736 H3 on enclosed inquiry slip ▲

TORQUE-LIMITING CLUTCHES
for use up to 260 lb-ft torque with standard drives



Slip type friction clutches for use as overload protective devices in power drives whose torque capacity does not exceed 260 lb-ft are designed as an alternative to shear pin methods. Three models are made with diameters of 4½, 5½ and 6½-in. and ratings of 55, 121.5 and 260 lb-ft respectively. Units are particularly adapted to roller chain drives and are designed to be used in connection with standard Morse type A plain plate roller chain sprockets. Other types of rotating members such as gears, pulleys and sheaves can also be used.

Clutches slip at the preselected overload torque setting, which can be adjusted within individual model capacities, and will not transmit power until the overload condition is remedied. They are then immediately ready for further service. Made by **Morse Chain Co.,** Dept. ND, 7601 Central Ave., Detroit 10, Mich.

▲ For more details circle NED-737 H3 on enclosed inquiry slip ▲

DO YOU KNOW? "Hold Everything" is the descriptive title of 16-mm sound-Kodachrome motion picture which tells the complete story of Allen Socket Screws. Why, how and where to use them are shown, together with a comparison between socket screws and other types of fasteners. Film available from Allen Mfg. Co., Hartford 2, Conn.

▲ For more details circle NED-738 H3 on enclosed inquiry slip ▲

Lick those leaks — with less re-packing

Quaker

CONVEYOR BELTING

If cartons slip and slide because of the steep incline, switch to a Quaker Safety Grip Rough Top Belt for sure, fast handling. The top surface is "alive" with thousands of rubber fingers that grip and hold even the smoothest material. *Tough* fingers on a *tough-built* belt that takes heavy loads, hard shocks and rough use over a long time. Depend on Quaker—all constructions, weights, sizes, built for all specific job requirements.

Write for name of nearest distributor

QUAKER RUBBER CORPORATION
DIVISION OF H. K. PORTER COMPANY, INC.
OF PITTSBURGH
Dept. D, Philadelphia 24, Pa.
Branches in Principal Cities

▲ For more details circle NED-739 H3 on enclosed inquiry slip ▲

THE THOMAS & BETTS CO.
INCORPORATED
24 Butler Street, Elizabeth 1, New Jersey
Thomas & Betts Ltd., Montreal, P.Q., Canada

▲ For more details circle NED-740 H3 on enclosed inquiry slip ▲

PALNUT LOCK NUTS
TRADE MARK

used for

Quick, secure fastening at low cost

THE PALNUT COMPANY
45 Cordier St., Irvington 11, N. J.
In Canada: P. L. Robertson Mfg. Co., Ltd.
Milton, Ontario

Catalog, Samples on Request

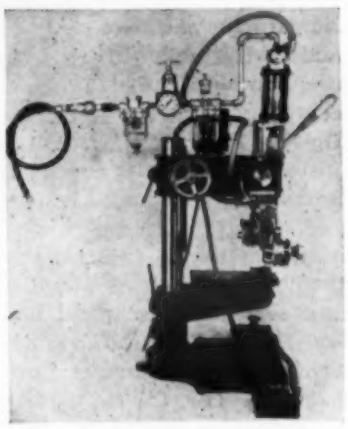
▲ For more details circle NED-741 H3 on enclosed inquiry slip ▲

INDUSTRIAL ENGINE develops 45 hp at 2400 rpm

Added to line of heavy-duty industrial engines is four-cylinder, overhead-valve model 134. Engine develops 45 brake hp at 2400 rpm, has 3.4375-in. bore and 3.6-in. stroke to reduce wear and improve fuel economy. Features include low-friction overhead valves, cylinders cast en bloc of high-grade iron, centrifugal cast sleeves, freeturn valves of high chrome-nickel alloy and heavy duty replaceable thin-shell copper-leaded bearings. Oil system has full-flow filter with renewable element that cleans all engine oil. Full-length water jackets surround each cylinder. Made by **Ford Motor Co.**, Dept. NED, 15050 Woodward Ave., Highland Park 3, Mich.

▲ For more details circle NED-744 H3 on enclosed inquiry slip ▲

WIRE STAMPING PRESS for coding insulated wire



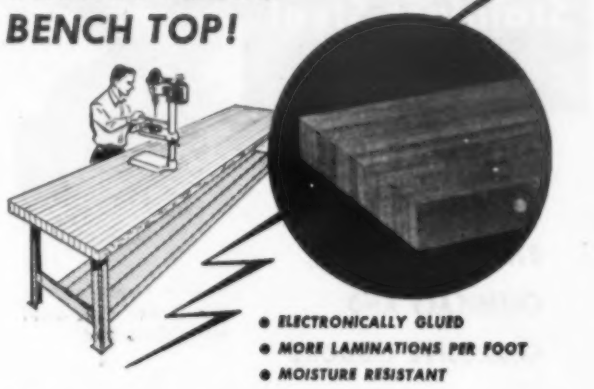
Insulated wire 1/16-in. and larger can be stamped with identifying symbols by the model H Weber hot foil wire stamping press. Standard flat, white metal type is used and can be changed in 2 to 3 minutes. Pigment foil in a 2400-in. by ½-in. roll is used and is available in a variety of colors. An air cylinder supplies the thrust. When type and foil contact the wire, preset timing and pressure automatically complete the stamping cycle. Wire can be stamped in cut lengths or by the spool, using a recoiling method. Machine can also be used for foil stamping of plastic, fiber, wood, leather, rubber and Bakelite. Distributed by **Forbee's Machinery Associates**, Dept. NED, P. O. Box 5470, Chicago, Ill.

▲ For more details circle NED-745 H3 on enclosed inquiry slip ▲

DO YOU KNOW? Elevating side-gates, powered by compressed gas and capable of lifting loads of up to 900 lb from ground to trailer floor level, are feature of new commercial truck trailer designed to handle and transport a 30,000-lb payload of 200 steel cylinders of compressed gas. Developed by Trailmobile Inc., Cincinnati 9, O.

▲ For more details circle NED-746 H3 on enclosed inquiry slip ▲

LAMINATED BENCH TOPS
● NOTHING—BUT NOTHING
TOPS A TOLCO BENCH TOP!



● ELECTRONICALLY GLUED
● MORE LAMINATIONS PER FOOT
● MOISTURE RESISTANT

Tolco Northern Maple, laminated assembly bench tops are built by the originators of electronic gluing. Skilled craftsmen blend their talents with the finest quality lumber available to bring you the supreme product in the laminated bench and table top industry. Tolco tops have more laminations per board foot than any other giving them superior strength and resistance to wear and tear. Special processing makes Tolco tops especially resistant to moisture and warpage. Write today for full color catalog illustrating and describing this outstanding product. Prices on request.

THE TOLERTON COMPANY
P. O. Box D 658 Alliance, Ohio
Established 1894

▲ For more details circle NED-748 H3 on enclosed inquiry slip ▲

VOLTS and AMPS at a glance with the COLUMBIA

Complete with Voltage Leads and Carrying Case

A. C. TONG TYPE VOLT-AMMETER
• Quickly • Accurately • Safely

Columbia Type AC-1 provides ampere readings with a snap by merely clamping jaws around the electrical conductor, without breaking circuit or insulation. Voltage readings are taken quickly and easily with safety plug-in leads. This instrument is one of the Columbia line of tong type instruments of the highest quality and dependability.

TYPE AC-1 FEATURES
• Measures up to 600 Amperes and 600 Volts.
• Amperes: 0/12/60/120/-600 A.C.
• Volts: 0/150/600 A.C.
• Convenient Range Switch.
• Insulated Jaws will accommodate Conductors up to 1½" diameter, Bus Bars up to 2" x ½".
• Accuracy: 3% full scale.
• Light Weight—Fits Easily into Pocket.
• High Quality at Low Cost.

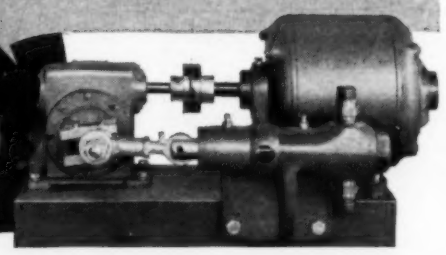
Inquiries Invited from Distributors • Write for Descriptive Bulletin AC-25

COLUMBIA ELECTRIC MFG. CO. 4525 Hamilton Ave. Cleveland 14, Ohio

▲ For more details circle NED-742 H3 on enclosed inquiry slip ▲

ACCURATE CHEMICAL FEED AT REDUCED COST

MILTON ROY H-20 PUMP



Milton Roy H-20 Pump is specifically designed to give repeatable metering accuracy and dependable low-cost performance in small-plant water service.

H-20 Pump has wide acceptance in laundries, dry-cleaning plants, bottling plants, with package steam boilers, and similar installations where the *extreme* accuracy of the patented Milton Roy Step-Valve Pump is not required.

Milton Roy H-20 Pump is constructed with relatively few parts. It is an inexpensive unit, providing low initial cost of installation. Its performance-proven dependability keeps maintenance costs at a minimum.

Simplex or Duplex models. Maximum capacity range: 3 to 12 gallons per hour against pressures up to 600 pounds per square inch.

New Bulletin No. H20M illustrates and describes this versatile member of the Milton Roy Pump family. Write for your copy.

MILTON ROY COMPANY
1304 E. MERMAID LANE • PHILADELPHIA 18, PA.

▲ For more details circle NED-743 H3 on enclosed inquiry slip ▲

POR-ROK (POUR ROCK)
Fast Setting Cement

PERMANENTLY ANCHORS BOLTS IN CONCRETE WITHIN 30 MINUTES!

Securely fastening machinery, hand rails, seats, fixtures or any type of equipment to concrete by means of anchor bolts can now be done quickly, easily and safely with Por-Rok Quick Setting Cement.

Por-Rok successfully replaces lead and sulphur, and costs considerably less. Applied cold, there is no heating hazard. Simply mix Por-Rok powder with water and pour around bolt. Within 30 minutes the cement sets hard and the bolt is anchored permanently.

Por-Rok also makes quick, lasting repairs to holes and breaks in concrete floors with little or no interruption to normal traffic. It is self-bonding, self-leveling, oil-resistant, does not shrink. Compression strength of 4500 lbs. p.s.i. in one hour GUARANTEED.

For complete information—without obligation—write

THE HALLEMITE MFG. CO.
2452 WEST 25th ST. • CLEVELAND 13, OHIO SINCE 1927

▲ For more details circle NED-747 H3 on enclosed inquiry slip ▲

Send for this free booklet

How to run high-voltage power close to the load in dusty, dirty or lint-laden areas

Get all the electrical advantages of short secondary lines plus the maintenance advantages of dry-type transformers, even in areas where air-borne dust, dirt or lint is a problem.

The new, totally-enclosed, Westinghouse Type "E" Transformer makes it possible.

Write for Booklet B-5812; then check with your local contractor, Westinghouse distributor or application engineer. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-70705

YOU CAN BE SURE... IF IT'S Westinghouse

▲ For more details circle NED-749 H3 on enclosed inquiry slip ▲

all new! THROUGH AND THROUGH

NEW DESIGN

Stainless Steel Meter

ACCURATELY MEASURES LIQUIDS FOR FOODS, PHARMACEUTICALS, CHEMICALS AND CORROSIVE LIQUORS

Rockwell Rotocycle Stainless Steel Industrial Meter, Type 2BC

Now you can have positive metered accounting for corrosive liquids that previously could not be handled by ordinary meters. Type 2BC Rockwell Rotocycles are made of stainless steel, inside and out. They are lasting, accurate, easy to clean. Install them with certainty for batch mixing formulas, for inventory control, for cost and tax record accounting. Quantity Control Registers and Remote Registration Systems are available. Described in bulletin OG-403. *Write Rockwell Mfg. Co. Dept. C10, Pittsburgh 8, Pa.*

You Can RELY ON ROCKWELL INDUSTRIAL METERS

For more details circle NED-750 H3 on enclosed inquiry slip

Just Off The Press!

SEND FOR FREE COPY TODAY!

GET THIS IMPORTANT FORK LIFT DATA NOW!

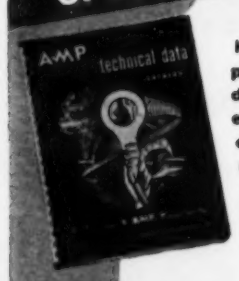
Here's the story of the amazing, new BUDA Fork Lift Truck! It out-maneuvers, out-lasts any other truck! It does the biggest jobs fastest! Strip it for maintenance in 22 seconds; disassemble in 22 minutes; change clutch in 30 minutes! See how and why in new 36-page booklet. Write to:

The Buda Company
Harvey, Illinois

BUDA

For more details circle NED-751 H3 on enclosed inquiry slip

NEW AMP TECHNICAL CATALOG of SOLDERLESS WIRING!

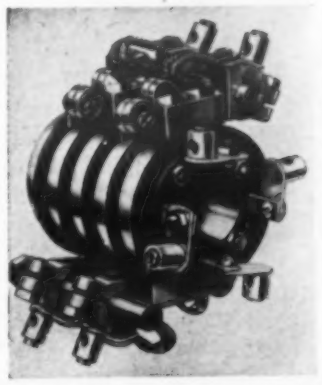


Here, for the first time, is a complete 78 page catalog of technical information devoted solely to *solderless wiring*. AMP's engineering and research facilities are outlined together with test data covering altitude, corrosion, comparative resistance, low currents, radio and audio frequencies, etc. Actual case studies are included which give savings in time and labor in typical applications. Send for your catalog today!

AIRCRAFT-MARINE PRODUCTS INC.
2100 PAXTON STREET, HARRISBURG, PA.
AMP Trade-Mark Reg. U. S. Pat. Off.

For more details circle NED-752 H3 on enclosed inquiry slip

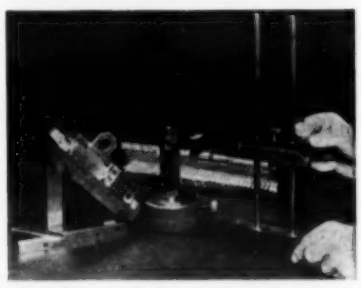
COLLECTOR RINGS have from 1 to 16 conductors



Having from 1 to 16 conductors, all-purpose collector rings are used for conducting current from stationary to rotating parts. Conductor ratings are from 35 amp at 600 v to 75 amp at 600 v, and the rings are rated for speeds up to 900 rpm. Brushes are made of high conductive copper graphite, each individually shunted. Free-acting adjustable helical spring maintains constant brush pressure. Bore of the standard collector ring is 1½ in., though this can be bushed down for smaller diameter shafts. Made by **Industrial Electrical Works,** Room A99, 1501 Chicago St., Omaha 2, Nebr.

For more details circle NED-753 H3 on enclosed inquiry slip

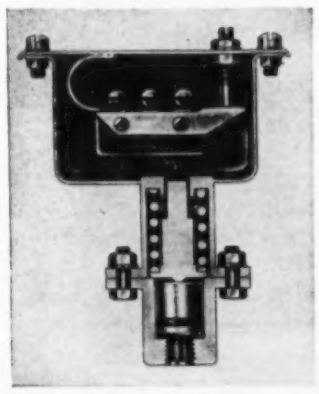
CHECKING EQUIPMENT for inspection and layout work



For precision inspection and layout this indicator height gage and adjustable inspection block speeds checking processes. Height gage is adjusted by hand to approximate height, and final adjustments made in millionths of an inch, by knurled thumb screw. It is supplied with indicator holder and scribing attachment and is available in 12, 24 and 26-in. sizes. Adjustable inspection block is also adjustable in millionths through a vertical range of 0.250-in. The 1¾-in. diameter anvil is adjusted by a micrometer thread knurled thumb screw. Surfaces are ground and lapped parallel. Made by **Tietzmann Tool Corp.,** 315 N. Main St., Englewood, O.

For more details circle NED-754 H3 on enclosed inquiry slip

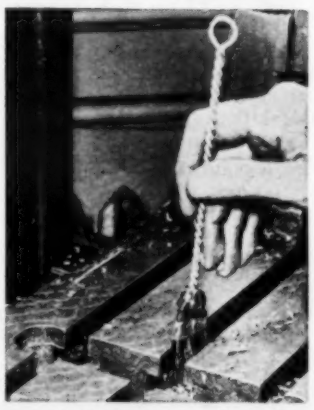
PRESSURE SWITCH senses from 15 to 3000 psi pressures



Practical for applications where millions of cycles are expected, model 9612 heavy duty pressure switch is capable of sensing any system pressure over an adjustable range of 15 to 3000 psi and actuating an electrical circuit on increasing or decreasing pressure. Proof pressure is to 7000 psi. Basic body kit can be converted to changing service requirements with interchangeable fitting kits. Mounting bracket fits around neck of unit and can be rotated 360 degrees, as well as moved up or down. Switch mounts in any position and is not sensitive to vibration or line surges. Made by **Barksdale Valves,** Dept. NED, 5125 Alcoa Ave., Los Angeles, 58, Calif.

For more details circle NED-755 H3 on enclosed inquiry slip

CHIP BRUSH horsehair bristles resist corrosives



The natural horsehair bristles of this machinist chip brush resist the acids and alkalis common to cutting oils and lubricants. Twisted and galvanized 12-gage wire handle incorporates a hanging loop. Bristles are securely held between twisted wires, and stamped ferrule is attached to the center section of the brush serving both as bristle spreader and lock. Bristles are trimmed to provide proper stiffness for efficient operation. Price is $3 per dozen. Made by **Biltwell Brush Co.,** Dept. N, 225 S. Church St., Rockford, Ill.

For more details circle NED-756 H3 on enclosed inquiry slip

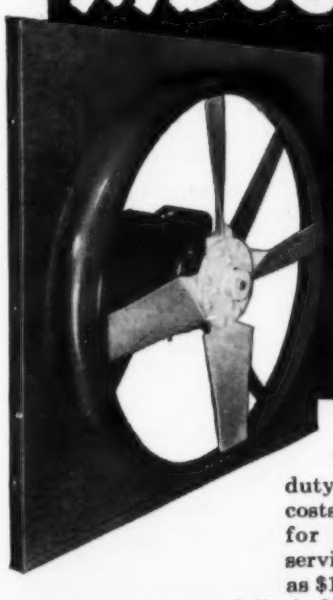
GET THIS GUIDE *to Standard or Special* NAYLOR FABRICATED FITTINGS

This handy Naylor Bulletin No. 525 offers helpful information on standard fittings for lightweight pipe and facts on special fabrications built accurately to your specifications. Sizes range from 3" to 44" in diameter and wall thicknesses up to ⅜". All types of materials. Write for your copy of No. 525 today.

NAYLOR PIPE COMPANY
1247 E. 92nd Street, Chicago 19, Illinois
New York Office: 350 Madison Ave., New York 17, N.Y.

For more details circle NED-757 H3 on enclosed inquiry slip

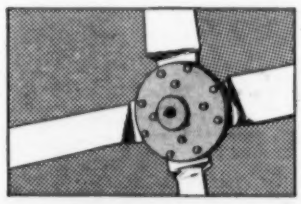
NEW ROBBINS & MYERS INDUSTRIAL FAN



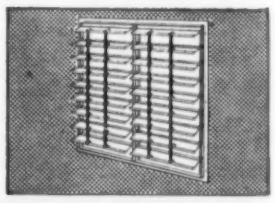
does heavy-duty cooling at low cost!

5 sizes 24" to 48"
5400 to 36000 CFM.

This new fan cuts heavy-duty cooling and ventilating costs to the bone! It's built for heavy-duty propeller service, yet prices start as low as $160.00 (24" size)! You get more power per dollar! New "gull-wing" blades, combined with an improved air inlet, set new highs in efficiency. Installation is easy, maintenance costs low. Consider the money-saving advantages of this new fan for your industrial, commercial or military needs. Check the enclosed inquiry slip now!



"Gull-Wing" Blades—Sharp change in pitch near center of blades promotes uniform pressure velocity.



Automatic Shutters—Available for every size fan. Shutters open when fan is on, close when it's off.

- Direct drive reduces maintenance costs
- "Gull-Wing" airfoil blades for uniform pressure and added strength
- Square steel welded frame forms easy-mounting panel
- Aluminum alloy blades—non-rusting, non-crystallizing, non-overloading, non-sparking
- Heavy-continuous-duty motor. Ball bearings permanently lubricated and sealed (Information on explosion-proof motors available on request)
- Automatic shutters to fit all fan sizes
- Streamlined air inlet for greater efficiency

SEND THE INQUIRY SLIP TODAY!

ROBBINS & MYERS FANS for 1953

Robbins & Myers, Inc., Fan Division
387 So. Front St., Memphis 2, Tenn. ND-83

For more details circle NED-758 H3 on enclosed inquiry slip

Use Fast Mounting MAGIC-GRIP Sheaves

FULL GRIP...NO SLIP!

Magic-Grip Sheave is the fastest mounting sheave you can buy — can be demounted just as fast. Bushing and sheave go on together. Alignment is easy. Sheave grips shaft full length of bushing and around full diameter. In addition, bushing is keyed to both shaft and sheave, so there can't be any slipping — no sheared screws — no jammed bushings. All *Texrope* sheaves from 1 to 150 hp have *Magic-Grip* bushings. They're just one more reason for specifying *Texrope* drives. Call your nearby Allis-Chalmers distributor or district office. Or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-4117

Texrope and Magic-Grip are Allis-Chalmers trademarks.

ALLIS-CHALMERS

For more details circle NED-759 H3 on enclosed inquiry slip

Something new! The Franklin Balmar DISKETTE for precision work in high speed ranges where ordinary electric tools do not reach. No-load spindle speed approximately 9000 RPM, operating speeds only slightly less. No need to bear down—just a light touch does the work quickly, easily!

Complete attachments including Safety Guards available for grinding, filing, polishing, deburring, sharpening, sanding.

Operates on 110 volt AC or DC power. Double fan for cool operation. Use the Diskette as a portable tool or as a fixed machine when fitted with a Bench Mount.

For further information, see your industrial supplies distributor or write direct for literature and name of nearest dealer.

FRANKLIN BALMAR CORPORATION
Woodberry, Baltimore 11, Md., or 5001 N. Wolcott Ave., Chicago 40, Ill.

DISTRIBUTORS--write for open territory data

For more details circle NED-760 H3 on enclosed inquiry slip

AERO-SEAL WORM-DRIVE HOSE CLAMPS WON'T SHAKE LOOSE!

Wherever you have to clamp a hose connection tight . . . or wherever you want to lock two objects of any shape together in an unshakeable bond . . . your best bet is AERO-SEAL.

Threads of steel worm engage deep into slots in stainless steel band — hold tight under extreme vibration in automotive, aircraft and industrial applications. CAN'T SHAKE LOOSE.

One-Hand Installation
Install an Aero-Seal any place you can reach with thumb and one finger. Self-feeding when band engages worm threads. Thumb-grip and screwdriver types.

Re-use Again and Again
When hose is worn you RE-USE the same Aero-Seal again and again. RE-USE Aero-Seals on temporary clamping jobs—they conform to any shape without damaging band.

Use of stainless steel subject to government regulations

"Aero-Seal"® WORM DRIVE HOSE CLAMPS

ANOTHER BREEZE PRODUCT

BREEZE CORPORATIONS, INC.
41 South Sixth St. Newark, N. J.

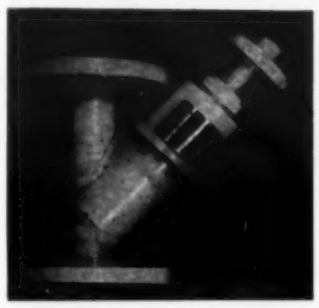
For more details circle NED-761 H3 on enclosed inquiry slip

STEEL STRAPPING KIT
contains strapping, seals and tools

Weighing approximately 17 lb, this Utilikit contains all necessary tools and materials for steel-strapping cartons, bundles and packages and is packed in a steel carrying case. It can be carried from job-to-job in plants, shops and storage yards. Contents include 300-ft coil of steel strapping in cardboard dispenser, 1000 strapping seals and stretcher, sealer and snips. Made by **Sharon Steel Corp.**, Brainard Steel Div., 3100 Griswold St., Warren, O.

For more details circle NED-762 H3 on enclosed inquiry slip

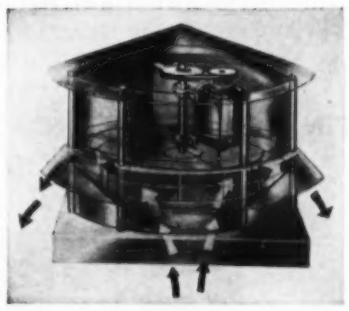
PLASTIC VALVES
of corrosion resistant polyethylene



Unaffected by most acids and variety of caustic solutions, corrosion resistant plastic globe and Y valves are fabricated throughout from polyethylene. Having low weight and high strength, they are recommended for working pressures up to 50 psi and temperatures to 150° F. Sizes of ½, 1, 1½, and 2-in. are currently available; others will be announced later. Made by **Vanton Pump Corp.**, Dept. NED, Empire State Bldg., New York 1, N. Y.

For more details circle NED-763 H3 on enclosed inquiry slip

POWER ROOF EXHAUSTER
self-contained belt-driven model



Capable of developing up to 4 in. static pressure and handling up to 65,000 cfm, this self-contained belt-driven power roof exhauster requires no penthouse or ductwork for installation. Development of a negative air pressure around the motor shaft prevents explosive or corrosive fumes from entering the motor housing. Features include weatherproof umbrella type outlet, heavy construction and all welded, backwardly curved, balanced centrifugal fan wheels. Made by **Gallaher Co.**, Dept. N-8, 4108 Dodge St., Omaha, Nebr.

For more details circle NED-764 H3 on enclosed inquiry slip

SafeStat
grounding device *never* loses contact

Prevent static-produced explosions in hospital operating rooms and in industrial plants with new low-cost SAFESTAT. Safely disperses static from equipment or machinery to the conductive floor. It's the *one* grounding device that can't lose floor contact . . . and *never* needs maintenance.

Tension weight in a canted position pulls 7" x 7" metal contact plate back into place when moved or kicked. Maintains constant pull on chain attached to equipment. Chain in detachable 2 ft. lengths adjusts to any height.

Created by the makers of CONDUCOTE, the conductive floor coating. Want details? For full information, write today: Walter G. LEGGE Company Inc., Dept. ND-8 101 Park Avenue, New York 17, N. Y. Branch offices in principal cities.

YOU'RE SAFE WHEN YOU WAXE TO STAND ON LEGGE — LEGGE SYSTEM of Safety Floor Maintenance

CELEBRATING 25 YEARS OF UNDERFOOT SAFETY

For more details circle NED-765 H3 on enclosed inquiry slip

NOW HUSKIER AND HANDIER for all types of soldering

INSTANT HEAT up to 275 Watts

Finest, fastest soldering tool you've ever seen—the new WELLER Electric Gun, completely redesigned and packed with features and power for every job.

***Four models*—single and dual heat light and heavy duty**

• *Instantaneous thermostatic control* • *Full, constant heat* • *Perfect balance* • *Prefocused spotlights* • *Shatterproof housing* • *Low-cost, replaceable Soldering, Smoothing and Cutting tips* • *Longer reach*

Order from your Distributor or write for bulletin direct.

Better from Grip to Tip

Weller ELECTRIC GUNS

THE FINEST TOOLS FOR THE FINEST CRAFTSMAN

809 Packer Street, Easton, Pa.

For more details circle NED-766 H3 on enclosed inquiry slip

These Kodagraph Autopositive Intermediates

Protect vital drawings

You're looking behind the scenes at the American Locomotive Company, Ordnance Division, Schenectady, New York.

The prints you see streaming from the processing machine are positive photographic reproductions of M47 tank drawings. They're produced without a negative step . . . and under room light.

This fast, low-cost operation enables the Ordnance Division to protect thousands of M47 drawings against costly wear and tear. For the drawings are filed away after the Autopositives are made. Then, because the engineering department of the Ordnance Division holds the design contract for the M47, these highly legible and durable intermediates are used to produce all the prints required by the 29 manufacturers and government agencies involved in the distribution of engineering changes on the M47 tank.

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These Kodagraph Autopositive intermediates, used in place of the valuable original drawings, produce sharp, legible blueprints or direct-process prints time after time. Their dense photographic black lines—on an evenly translucent paper base—will not smear or lose density . . . which simplifies print production and eliminates errors all along the line.

Advantages which you will appreciate, too, in your own operations. *And, remember, this is only part of the Autopositive story!*

Write for free booklet giving details on the revolutionary Kodagraph line, which you, or your blueprinter, can process . . . *quickly, economically.*

Kodagraph Reproduction Materials

"THE BIG NEW PLUS" in Engineering Drawing Reproduction

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak

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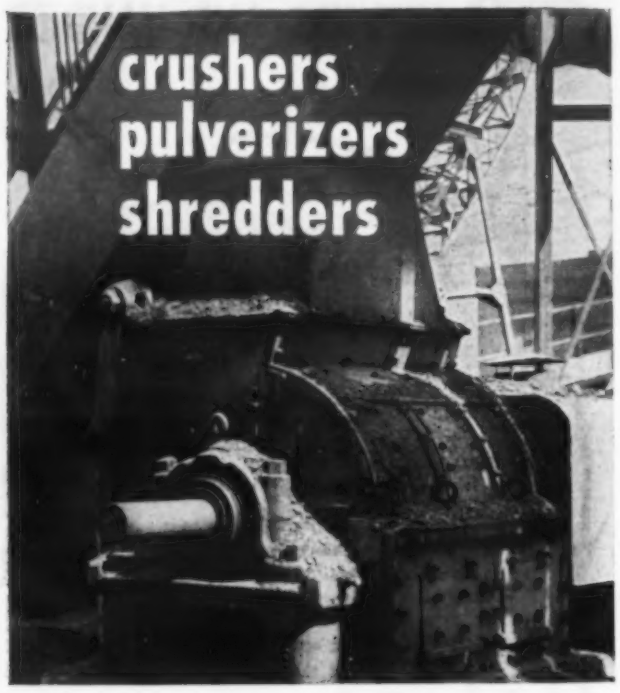

THE JEFFREY MANUFACTURING CO.
Columbus 16, Ohio
IF IT'S MINED, PROCESSED OR MOVED ...IT'S A JOB FOR JEFFREY!
sales offices and distributors in principal cities

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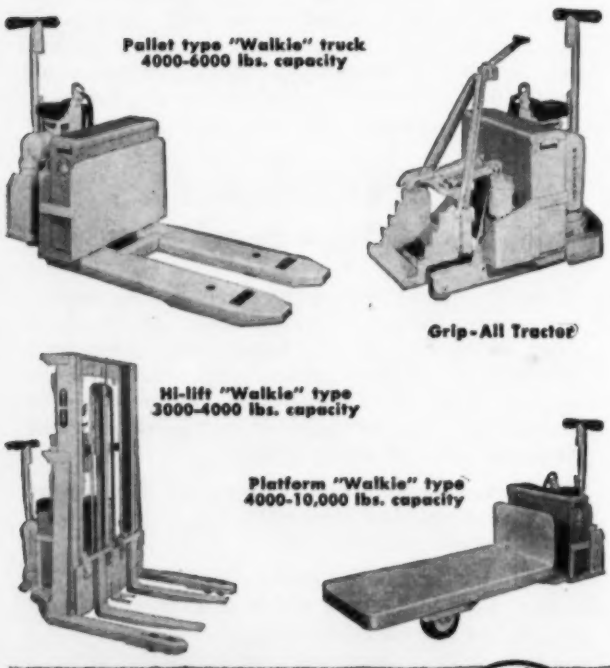
Modern Materials HANDLING?

Our illustrated Indian family helps to prove a point . . . old fashioned, inadequate materials handling techniques may be costing you money . . . money that perhaps could be converted into profit. It costs you *nothing* to investigate the MOTO-TRUC "Walkie" line . . . and most important . . . THERE'S A MOTO-TRUC FOR EVERY PURPOSE. Write for Bulletin No. 53.



Representatives in Principal Cities
The MOTO-TRUC Co
MOTO-TRUC Designed FOR THE INDUSTRY PATENTED
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PALLET . . . PLATFORM . . . HI-LIFT TRUCKS
LARGEST EXCLUSIVE MANUFACTURERS OF "WALKIES"

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PARTS EQUIPMENT
facilitates handling and storage

Included in line of equipment for parts handling and storage are standardized pressed metal pallets, tote pans, tote pan adapters and small parts bins that can be assembled without tools into infinite variety of arrangements to meet current assembly and production requirements. Pans provide visibility and accessibility to contents. Benches can be assembled with tote pan adapters and pans as a base. Bench bins segregate from 30 to 126 different parts, while floor type parts bins accommodate up to 360 parts. Made by **Bathey Mfg. Co.,** 161 Mill St., Plymouth, Mich.

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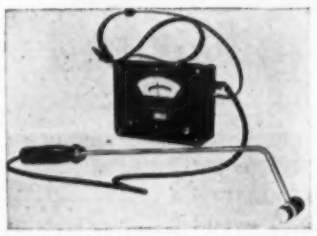
OILER-FILTER
for pneumatic lines

Lubricating of pneumatic tools with "oiled air" is combined with filtering the air in the line by Air-Speed Williams pneumatic lubricator. Weighing only 12 oz and equipped with Neoprene shock absorbing rings, it can be dragged over the floor with the hose without damage. Nonbreakable window shows when oil supply needs replenishing. Fittings are adaptable to all standard air lines. Device can also be used on stationary machine line. Oil flow can be increased or decreased by needle-point adjustment. Filter section is cleaned by removing a plug and turning on air to blow out accumulation of foreign matter. Device can be supplied without filter. Made by **Air-Speed Tool Co.,** 1502 W. Slauson Ave., Los Angeles 47, Calif.

▲ For more details circle NED-771 H3 on enclosed inquiry slip ▲

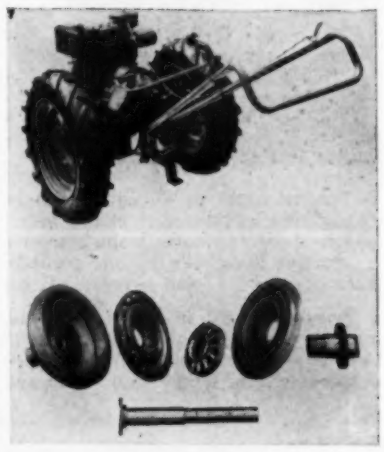
TIN-CONTENT INDICATOR
improved model features durability



Quick analysis of lead and tin content in solder is possible in process control operations with the Wheelco tin-content indicator. Improved portable, direct-reading model has a plug-in sensing unit and is designed for long service life. Unit consists of an open sample cup and sealed cup containing the lead sample. Correct percentage of tin in sample is shown by measuring the difference in temperature at the transformation point of the lead standard and the lead-tin sample. Made by **Barber-Colman Co.,** Wheelco Instruments Div., 1514 Rock St., Rockford, Ill.

▲ For more details circle NED-772 H3 on enclosed inquiry slip ▲

TRACTOR
with torque converter transmission



Available with line of accessories and attachments which adapt it to varied industrial uses, this two-wheel, 3-hp tractor (*NED April* 1953) incorporates automatic torque converter transmission. Result is ease of operation and smooth power flow. Transmission provides infinitely variable speeds, both forward and reverse, free wheeling and less shock and wear on equipment. Tractor can start instantly under full power with maximum drawbar pull. Tires are 6.00-16 wide base pneumatic implement type. Made by **Bready Tractor & Implement Co.,** 28002 N. Aurora Rd., Solon, O.

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PURE WATER
DISTILLED WATER?
PROBLEMS SOLVED WITH Barnstead EQUIPMENT
DEMINERALIZED WATER?

In hundreds of manufacturing processes, where complete purity is needed, Barnstead Stills provide the highest-quality, lowest-cost, chemically pure, sterile water from ½ to 1000 gallons per hour. With over 100 different models to choose from, Barnstead can provide the exact still to fit your particular needs. For Barnstead Laboratory and Industrial stills are the proven standard of the scientific and industrial world.

Where modern manufacturing processes require only high-test mineral-free water, Barnstead Demineralizers are the best producers . . . 5c per 1000 gallons with a minimum of supervision and maintenance. Many new industries are turning to Barnstead Demineralized Water for greater production, fewer rejects and better quality control.

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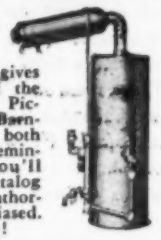

Catalog #123 gives both sides of the Pure Water Picture. Since Barnstead makes both stills and demineralizers, you'll find this catalog complete, authoritative, unbiased. Write Today!

First in Pure Water since 1878
Barnstead STILL & STERILIZER CO.
16 Lanesville Terrace, Forest Hills, Boston 31, Mass.

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LEITELT TWIN SCREW
Power Ramp
ANSWER to TOUGH DOCK PROBLEMS

Forms part of dock when not in use. 18 inch vertical adjustment Capacity: 7½ tons of live load on any axle; 10 tons dead weight

★ Positive drive screw lift
Board always under complete control
★ 15" hinged plate follows truck up or down
Requires no manual adjustment
★ Built in two sizes to fit your needs
6' wide; 6' and 8' long
★ Complete, self-contained power unit
Ready and inexpensive to install
★ Safe with unbalanced load
Twin screws support two front corners of dock
★ Automatic safety controls
Dock stops automatically at top and bottom limits
★ Operates in any kind of weather
All working parts fully protected against dirt and weather

Karl A. HERMAN Company
412 FULLER AVE., N.E. GRAND RAPIDS, MICHIGAN

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Turn your products out faster, more economically in continuous straight-line production with a Wissco Belt. To order, write or call our nearest sales office.

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WISSCO BELTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION CF&I

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GRAPHITE BRONZE BEARINGS

BRONZE BAR STOCK · BRONZE BUSHINGS · PILLOW BLOCKS · SHEET LUBRICATOR · GRAPHITED BEARINGS · THRUST WASHERS · BRONZE CASTING · SAFETY COLLARS

Randall

RANDALL GRAPHITE BEARINGS, INC.
1007 S. Greenlawn Ave., Lima, Ohio

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PERECO
Carbon-Resistor Type TUBE FURNACE

Model CT-312

Precision Control At 5000° F.

Developed to meet the demands of both industry and military. Suited for investigations in the ultra-high (3500°—5000° F.) temperature ranges in the field of either metallurgy or ceramics. Wide range of "turn-down" insures very accurate results. May also be duplicated repeatedly. Capable of holding to plus or minus 20° F. at 5000° F. Choice of extremely rapid or any slower cycle heat-up; close control of both temperature and power input; full-range, FAIL-SAFE, safety devices; and easy, low-cost element replacement.

Standard or Special Furnaces or Kilns from 450° F. to 5000° F.

Write for Bulletin

PERENY EQUIPMENT CO.
Dept. G, 893 Chambers Rd., Columbus 12, Ohio

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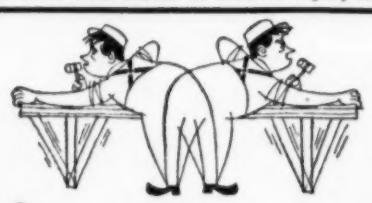
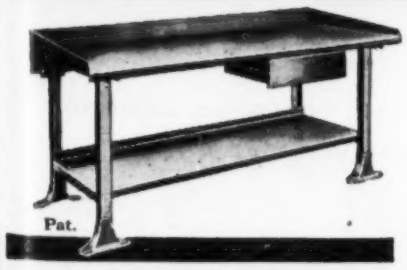


need it
RIGID?



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Immediate Delivery

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Benches — Steel, Maple Top, Welding • Machine Stands, Work Stands, Bench Legs, Tote Boxes.

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HAND CREAM
now in 8-oz dispensing tubes

More hygienic dispensing of Skin-Cote protective hand creams is afforded by the squeeze type 8-oz tube in which product is now available. Tube dispensing also facilitates judging amount of cream required to do the job, and less cream is wasted. Lithographed tube retains its identification permanently and is not likely to break. Made by **Boyer-Campbell Co.**, 6540 St. Antoine St., Detroit 2, Mich.

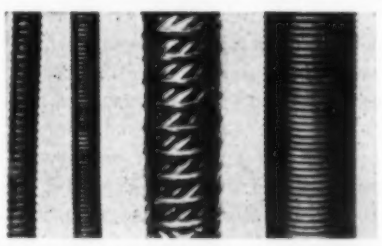
▲ For more details circle NED-780 H3 on enclosed inquiry slip ▲

COPPER PURIFIER
salvages copper plating baths

Need for periodic dumping of copper plating baths is eliminated by Sel-Rex copper purifier which removes harmful solution breakdown impurities and converts them to useful cyanides. The product, a concentrated solution of pure salt, precipitates carbonates, chromates and sulphates in heavy, dense, insoluble form while converting them to cyanides. It adds no impurities to the bath. Addition of purifier sharply reduces cyanide consumption and increases cathode efficiency of solution. One gallon removes about 38 oz of sodium carbonate or 50 oz of potassium carbonate. It increases sodium cyanide content of bath by at least 35 oz, or potassium cyanide content by 47 oz. Purifier is offered in 55-gal drums. Made by **Sel-Rex Precious Metals, Inc.**, 231 Main St., Belleville 9, N. J.

▲ For more details circle NED-781 H3 on enclosed inquiry slip ▲

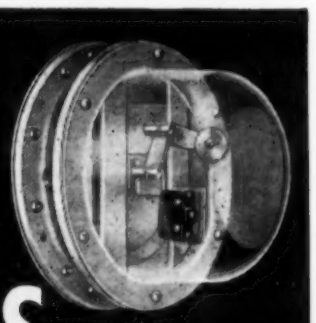
FLEXIBLE HOSE
for fume exhaust and ventilation



Possessing unusual lengthwise compressibility, Portovent flexible hose is designed for fume exhaust and ventilation applications. It has good airflow characteristics and maintains a large cross section, even on sharp bends. Hose is cotton or nylon fabric, impregnated with Neoprene compound and spiral wire reinforced. Since it is bonded it can easily be cut to size in the field without weakening or raveling. It can be supplied in sizes from 4 to 36-in. ID and is available in any desired length. Made by **Flexaust Co.**, Dept. NA, 100 Park Ave., New York 17, N. Y.

▲ For more details circle NED-782 H3 on enclosed inquiry slip ▲

NEW LOW PRICES on BIN-DICATOR



world's **simplest** automatic bin level indicator. **No springs, no motors, no lubrication.** Watches **and reports** material levels in bins, silos, hoppers, chutes, etc.; automatically starts, stops filling machinery. Used throughout industry. **Units installed 20 years ago still in use.** Free catalog with valuable engineering data. Write:

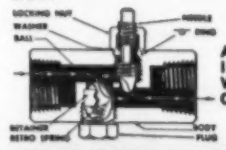
THE BIN-DICATOR CO.
13946-A Kercheval Avenue • Detroit 15, Michigan

▲ For more details circle NED-783 H3 on enclosed inquiry slip ▲

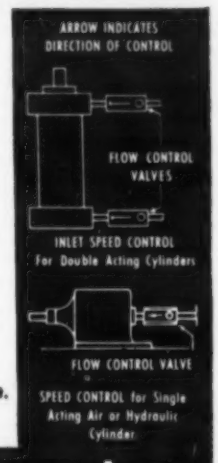
Get Easier, More Accurate Cylinder Speed Control

with **Pneu-Trol** VALVES IN AIR OR HYDRAULIC USE

Pneu-Trol Valves combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Improved "O" Gland structure seals and locks the fine needle setting when speed adjustments are made. Retro ball floats in most sensitive position to seat, requiring only a slight differential pressure to fully open or close it. Pneu-Trol Flow Valves are available in 5 female pipe sizes — ⅛" to ¾". Valve bodies are made from brass, aluminum, steel or stainless steel.



Attractive Prices — Immediate Delivery Write for Illustrated Circular and Price List.



Pneu-Trol Devices, Inc.
1432 N. Keating Ave., Chicago 51, Ill.

▲ For more details circle NED-784 H3 on enclosed inquiry slip ▲

SPIROL'S radial spring action fastens better!

SPIROL PIN

Does the job here

and here too!

Radial SPRING ACTION MAKES SPIRAL COILS SHOCK-PROOF!

From tiny eyeglass-hinge pivots up to ½" or larger fastenings used in locomotives, the all-around tension of spiral coils gives SPIROL PIN unique fastening properties. When compressed by insertion, SPIROL PINS develop *evenly distributed* radial spring tension — no weak "hinge" lines. This spring action locks SPIROL PIN in place — eliminates close tolerances — allows easy removal and re-use of pin. True radial flexibility permits shock-proof fastening of hard and soft materials — eliminates internal stresses in component parts. SPIROL PINS have chamfered ends for easy insertion.

FREE! Write for illustrated folder and sample SPIROL pins.

C. E. M. COMPANY
41 SCHOOL STREET • DANIELSON, CONN.

▲ For more details circle NED-785 H3 on enclosed inquiry slip ▲

BETTCHER MANUFACTURING CORPORATION . . .

says PHILLIPS degreasing
★ speeds up production
★ cuts overall production costs
★ gives more efficient cleaning

Phillips Model 84 degreaser gives fast, efficient cleaning in the Bettcher plant

PHILLIPS VAPOR DEGREASERS

- Higher operating temperature, greater capacity.
- No rinse, blast or drying operations.
- Power consumption only 70% in full production.
- Sizes, types for every need.
- Accurate, economical, safe solvent control.

Bettcher Manufacturing Corporation of Cleveland, Ohio has found that Phillips degreasing is vitally important in keeping costs low. Two Phillips batch type degreasers plus Phillsolv (stabilized and inhibited) are used to give fast, efficient cleaning of conversion heater parts. As a result, cleaning costs have been reduced 50% by this modern Phillips method. Parts are cleaner too, making possible further savings in finishing.

This is how the Phillips system helps get more profitable production. No matter what your own cleaning needs are, there is a Phillips unit to fit. Check with Phillips today for metal cleaning that cuts costs and improves cleaning at the same time.

SEND FOR THIS CATALOG

Complete information kit. Details on sizes, styles, installation. Illustrated bulletin and vapor degreasing handbook.

Phillips MANUFACTURING COMPANY
3463 Touhy Avenue • Chicago 45, Illinois
Engineered Metal Cleaning Equipment

For more details circle NED-786 H3 on enclosed inquiry slip

UNION METAL STEEL SHOP BOXES

STYLE C

..building a reputation for better service

Check these *extra* quality features:

1) Hopper opening is full width of box to simplify material removal.

2) There are no troublesome offsets at hopper end.

3) Heavy gauge, drawn angle, corner reinforcements.

4) Built-in runners extend full length of box bottom.

5) Broad range of sizes and types.

Send for Bulletin MH-807A for information and dimensional data. Address The Union Metal Manufacturing Company, Canton 5, Ohio.

UNION METAL
Material Handling Equipment

For more details circle NED-787 H3 on enclosed inquiry slip

Do you use barrier wraps?
Then you need the new
DERBY BW
BARRIER WRAP MEASURING DISPENSERS

The Derby BW Dispensers eliminate the slow, messy, expensive Barrier Wrap handling problem and provide a substantial saving in time, labor and material. Large rolls may be converted into the exact widths and lengths desired in one single operation.

Available in models to accommodate 4", 6", 8", 12" and 14" rolls and equipped with Universal Slitter to deliver a variety of desired widths and definite lengths.

For further information write Dept. NED

DERBY SEALERS, INC. DERBY, CONNECTICUT

For more details circle NED-788 H3 on enclosed inquiry slip

New Literature & Catalogs

Casters & Wheels

Fairbanks Co.—Single and double-race Lockweld casters, which require no king-pin, are described in 8-page illustrated bulletin C-1. Also covered are heavy duty steel casters in swivel and rigid tyes; and vulcanized rubber-tired roller bearing wheels in 3 to 18-in. sizes.

For more details circle NED-789 H3 on enclosed inquiry slip

Combustion Gas Turbines

Westinghouse Electric Corp.—Combustion gas turbine power plants for mechanical drive applications in ratings up to 7000 hp are described in 24-page illustrated manual B-5859. Machines are designed to minimize costs in installation, operation and maintenance for natural gas transmission service as well as in chemical, refinery, steel mill and process industries.

For more details circle NED-790 H3 on enclosed inquiry slip

Solder Flux Guidance

Kester Solder Co.—Selection and application of proper flux for practically every production or experimental soldering purpose are subjects of 12-page illustrated catalog "Soldering Fluxes." Available fluxes of rosin, activated resin, organic base and salt or chloride types are covered.

For more details circle NED-791 H3 on enclosed inquiry slip

Profile Milling Machine

Onsrud Machine Works, Inc.—16-page illustrated bulletin 1140 explains design and operation of the model A-72 profile milling machine for high speed spindle and high feed nonferrous metal milling. Also detailed is skin milling attachment. Machine performs irregular profile milling of inside and outside contours.

For more details circle NED-792 H3 on enclosed inquiry slip

Industrial Insulations

Data on Owens-Corning Fiberglas insulation products; their properties, uses, forms and sizes, coverings and accessories; engineering data; application specifications and ordering information are found in 84-page catalog. Types described and illustrated using photos, charts, graphs, sketches and drawings are pipe, equipment, duct and low temperature insulations. Looseleaf, leather-covered permanent catalog is obtainable from Owens-Corning Fiberglas Corp., Nicholas Bldg., Toledo 1, O., on an individual basis.

For more details circle NED-793 H3 on enclosed inquiry slip

Die-Forge Casting Machine

Lewis Welding & Engineering Corp.—Descriptions, photographs and line drawings are used to give details of the 650-B die-forge casting machine in 8-page bulletin 103. Machine features a 200-ton Hydra-Lock hydraulic clamping mechanism. Ten actual castings show machine's flexibility and wide range of capacities. All specifications are given.

For more details circle NED-794 H3 on enclosed inquiry slip

STURTEVANT Laboratory Machines Assure Quality of Products
Fast-Economical-Accurate

Sturtevant Laboratory Equipment meets the exacting requirements of laboratory work. They are fast and accurate...provide true samples. Rugged and dependable, Sturtevant equipment actually has all the features of full size machines plus extra accuracy and wider range of adjustment. The "Open-Door" accessibility permits quick, thorough cleaning . . . prevents the possibility of previous batches from contaminating new samples.
Investigate Sturtevant equipment for your laboratory. Write for complete details and catalog.

STURTEVANT MILL COMPANY
114 CLAYTON STREET, BOSTON 22, MASS.

For more details circle NED-795 H3 on enclosed inquiry slip

Cut Costs with MEAD MIDGET Air-Clamps
PNEUMATIC CYLINDERS
Horizontal and Vertical!

Both models deliver 80 lbs. pressure on a line pressure of 100 lbs. They'll save countless man-hours in assembly operations involving welding, riveting, bolting, etc. *Advantages over mechanized clamps:* 1. Any number can be operated by single master valves. 2. Easily installed in cramped corners. 3. Equal ram pressure at any stroke point. Send for new Mead AIR POWER Catalog, describing our line of Air-Clamps, Air Vises, Air Presses, Work Feeders, Valves, Controls, etc.

MEAD SPECIALTIES COMPANY
4114 No. Knox Ave., Dept. NA-83, Chicago 41, Ill.

For more details circle NED-796 H3 on enclosed inquiry slip

NAGLE designs and builds centrifugal pumps for abusive applications ---abrasive or corrosive.

The complete line of Nagle vertical and horizontal shaft pumps is engineered to solve tough pumping problems—which Nagle Pumps have done in every industry confronted with such problems. Send for catalog.

NAGLE PUMPS
NAGLE PUMPS, INC.
1265 CENTER AVENUE, CHICAGO HEIGHTS, ILLINOIS
PUMPS FOR ABRASIVE AND CORROSIVE APPLICATIONS

For more details circle NED-797 H3 on enclosed inquiry slip

OSBORN

Which of these versatile brushes will cut your costs?

Hard-to-get-at jobs are simplified . . . costly hand operations are eliminated . . . when you switch to one of these special-purpose Osborn power brushes.

These versatile wire brushes are just a few of the complete Osborn line of power brushes for hard-to-get-at jobs. Your Osborn Brushing Analyst will gather necessary facts in your plant . . . study your production equipment and recommend the most efficient, economical power brushing techniques.

He can solve your brushing problems of product cleaning, burr removal, roughing, polishing or finishing with similar startling economies. For complete information at no cost call your nearby Osborn representative or write to *The Osborn Manufacturing Company, Dept. Z-8, 5401 Hamilton Ave., Cleveland 14, Ohio.*

Osborn Brushes

OSBORN POWER, MAINTENANCE AND PAINT BRUSHES AND FOUNDRY MOLDING MACHINES

For more details circle NED-798 H3 on enclosed inquiry slip

AJUSTRITE

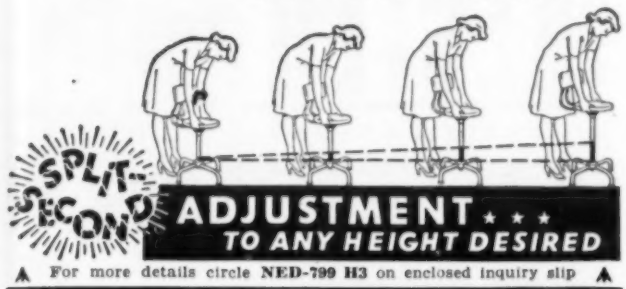
TRADE MARK

RSC Models

AUTOMATIC ADJUSTABLE CHAIRS

Ajustrite (formerly Kewaunee) adjustable chairs and stools are used extensively in Factories, Laboratories, Hospitals, Offices, Schools, Colleges, and Government Agencies. User adjusts to any desired height by merely lifting seat—no screws, bolts or tools.
Choice of 18 models. Height adjustment 15" to 20"; 18" to 26"; 24" to 35". Seats of plywood, hardwood, or molded FOAM RUBBER cushion. Self aligning back rests—horizontal and vertical adjustment.
Write for literature and free trial offer

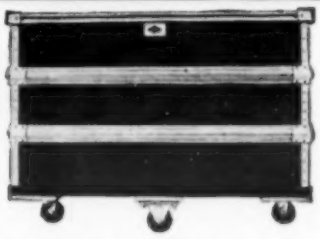
AJUSTO EQUIPMENT CO.
2144 Madison Ave. Toledo 2, Ohio



For more details circle NED-799 H3 on enclosed inquiry slip

DIAMOND FIBRE

SPARTAN TRUCKS



...LAST and LAST and LAST!

Buying the best in fibre trucks is easy once you get C-D-F's Receptacles Catalog R-52. This big book shows how Spartan Trucks are built for long life, complete protection of materials handled, smooth running swiveling.

There's an important difference in the way C-D-F builds a Spartan Truck . . . to your exact dimensions . . . with your choice of quality casters . . . from selected top grades of genuine C-D-F Diamond Vulcanized Fibre. Top rims are rust-resistant, with no overhang to snag materials or elbows. Diamond Fibre sides are smooth, tough, oil and grease resistant. Hardwood bottoms (solid or slatted) with a welded iron kickband. Rounded metal corners with eight corner rivets for super strength. Curved center bands.

A C-D-F Sales Engineer wants to put one Spartan Truck in your plant (our four plastics factories use hundreds). You compare it. Spartan Trucks have strong construction, better workmanship, top quality materials throughout, practical design . . . and longer life. They last and last and last!

THE NAME TO REMEMBER... DIAMOND FIBRE MATERIALS HANDLING EQUIPMENT

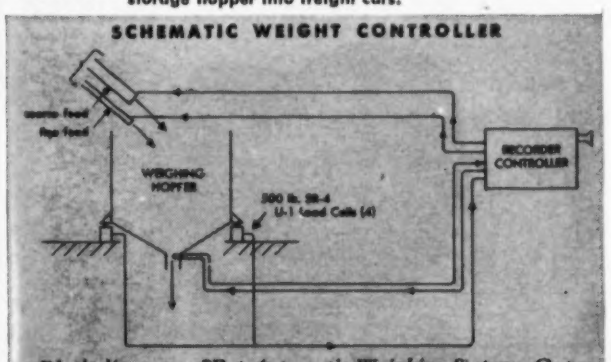
Continental-Diamond Fibre Company

NEWARK 30, DELAWARE

For more details circle NED-800 H3 on enclosed inquiry slip

SR-4® Devices in Industry — Uses Unlimited

Problem: How to weigh automatically an expensive plastic from storage hopper into freight cars.



Block diagram—SR-4 Automatic Weighing System. Outputs of four 500 pound U-1 SR-4 Load Cells are totalized into strip chart recorder-controller which furnishes a complete record of each weighing cycle including final and initial weights.

Solution: A leading chemical company does it rapidly and accurately with a fully automatic SR-4 Weighing System.

This SR-4 System is giving all of these advantages:
- System will pay for itself quickly due to its very high accuracy in weighing large daily shipments of such an expensive material.
- Speed of operation (less than two minutes per 1000 lb. cycle) cuts costs.
  - Only one operator needed . . . just part time.
  - Automatically furnishes complete record of each weighing.
  - Rugged construction minimizes maintenance.

For latest technical information please write to Baldwin-Lima-Hamilton Corp., Dept. 3029, Philadelphia 42, Penna.

TESTING HEADQUARTERS

BALDWIN-LIMA-HAMILTON
Philadelphia 42, Pa.

For more details circle NED-801 H3 on enclosed inquiry slip

New Processes & Materials

WATER DISPLACING SPRAY inhibits rust and protects all types of equipment from moisture

Dispensed easily from pressurized spray container, Spradri is a water displacing chemical that penetrates minute pores and crevices, drives out moisture and wetness, and forms a dry, hard, water repellent and rust preventive film. It can be used to restore flooded electrical equipment such as motors, controls and coils to service in 15 to 20 minutes after application of Spradri. A thorough application of material to ignition systems and electrical equipment will insure prompt troublefree starting even after deluges such as tropical hurricanes.

Tools, precision instruments and similar items can be protected from rust and corrosion by single application of this sprayed-on coating. It is harmless to insulation, metal, rubber and other materials. Being colorless, it does not change appearance of product. It does not need to be removed prior to painting. Illustrated is 12-oz Aerosol spray bomb which retails for $2.95. Larger high-pressure heavy duty service containers for industrial use or bulk quantities are available. Made by **Spradri Co.**, 336 Atando Ave., Charlotte 6, N. C.

For more details circle NED-802 H3 on enclosed inquiry slip

MASONRY COATING has waterproofing action

For waterproofing porous masonry such as brick, concrete, limestone, mortar joints and stucco, Myti-Dri transparent coating produces an internal rubber-like seal. No film or discoloration is left on the masonry surface, since compound consists of solid materials in a penetrating solvent which evaporates completely after application. Coating can be applied either by brush or spray and 1 gal covers approximately 100 sq ft, depending on degree of porosity. Made by **Masonry Waterproofing Co.**, Box 9301, Rosslyn Station, Arlington, Va.

For more details circle NED-803 H3 on enclosed inquiry slip

Wear Defying

SILVER KING INDUSTRIAL COUNTERS

Silver Kings challenge comparison! On casual examination, critical analysis, or the most exhaustive life tests they come out miles ahead.

Built rugged as an army tank, they operate smooth as a watch. Extra heavy shaft, oversize bearings, life-tested parts, light weight number wheels, tamper-proof reset, all-steel housings, chrome-plated finish—you can install Silver Kings with assurance of maximum dependability, longest life, lowest upkeep cost.

Available in Stroke and Revolution types, 5- or 7-digits, right or left shaft, knob or key reset.

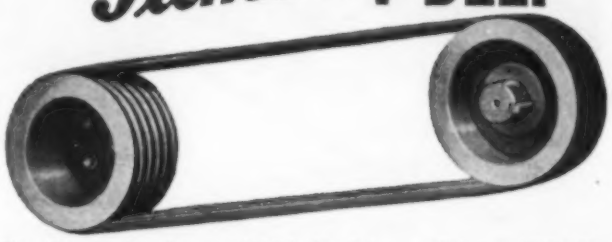
Ask your PIC Representative to show you a Silver King or write us.

PRODUCTION INSTRUMENT COMPANY
700-12 W. Jackson Blvd., Chicago 6, Ill.

For more details circle NED-804 H3 on enclosed inquiry slip

All the PULL you can use is built into every

Gilmer V-BELT



In the early days of V-belt drives, Gilmer V-Belts established a reputation for rugged dependability and long life. Constantly improved as new rubber compounds, stronger fibers and better belt-building techniques were developed, the Gilmer V-Belts you buy today are the toughest, most durable in all Gilmer history!

Gilmer V-Belts are made in all standard and many special sizes. Order them from your nearby, stock-carrying NYB&P-GILMER Distributor.

NYB&P NEW YORK BELTING & PACKING CO. 1 Market St., Passaic, N. J.
America's Oldest Manufacturer of Industrial Rubber Products

For more details circle NED-805 H3 on enclosed inquiry slip

get the facts

Series 13, long top plate

Series 12, wide top plate

ON ALBION'S VERSATILE NEW SERIES 12 AND 13 CASTERS

● These completely new . . . completely practical industrial casters have extra-wide, extra-long, formed steel top plates to afford a greater variety of bolt hole spacings that will solve practically any attachment problems. Conservatively rated as *medium* duty industrials, they are built in a wide range of rigid and swivel models with wheel diameters from 3¼" to 8". Available with steel wheels or Texite, Moldon, Rolite or Noflex for complete floor protection and super-smooth operation.

If you want longer, better service and economy . . . plus caster versatility, be sure to get the facts from Albion. Write, wire or 'phone today for your free copy of the new illustrated specification sheets on the Series 12 and 13 Industrial Casters.

ALBION INDUSTRIES, INC.
ALBION, MICHIGAN

Gentlemen . . . please send me complete information on your new Series 12 and 13 Industrial Casters.

NAME_____
FIRM_____
ADDRESS_____
CITY_____ STATE_____

For more details circle NED-806 H3 on enclosed inquiry slip

NEW T-J

Spacemaker AIR CYLINDERS

Saves up to 40% Space!

Streamlined construction of the new T-J Cylinders *eliminates tie rods . . . reduces head size . . .* and *saves up to 40% in mounting space!* In addition, a new high in strength is achieved with solid steel heads and heavy wall seamless steel body . . . leakproof construction . . . extra high safety factor. Cylinder walls are precision honed and hard chrome plated for long-life efficiency. Available with new T-J Super Cushion Flexible Seals. Many standard sizes and styles . . . cushioned and non-cushioned . . . for pushing, pulling, lifting, clamping or control jobs. Write for bulletin 8152. The Tomkins-Johnson Co., Jackson, Michigan.

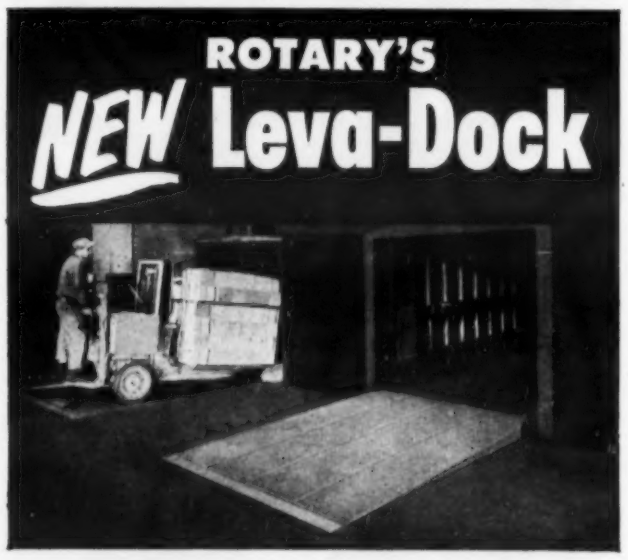
4 Weeks Delivery on the Spacemaker — any style any stroke, 1" to 3" diam.

37 YEARS EXPERIENCE T-J
TOMKINS-JOHNSON
AIRLOCKS · AIR AND HYDRAULIC CYLINDERS · CUTTERS · CLINCHERS

▲ For more details circle **NED-807 H3** on enclosed inquiry slip ▲

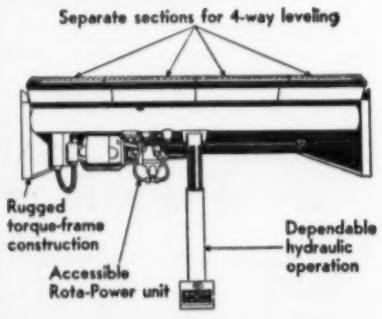
ROTARY'S

NEW Leva-Dock



Adjustable hydraulic ramp for loading docks

- Low cost
- Simple installation
- Easy maintenance
- Assured Safety
- 4-way leveling



■ **Faster, Safer Loading**—Hundreds of material handling men were interviewed, thousands of loading docks checked before the new LEVA-DOCK was designed and engineered. It's Rotary's practical, economical answer to the loading dock problem.

This new automatic ramp compensates 4 ways for varying truck bed heights, out-of-level trucks, and truck spring deflection. Power trucks move quickly, safely in and out of trucks or trailers. A new automatic safety device prevents accidents and costly delays.

The Leva-Dock is a rugged, self-contained unit with oil reservoir mounted in torque-tube frame. All piping and wiring done at the factory except power leads and control wires. Installation costs are cut to the bone.

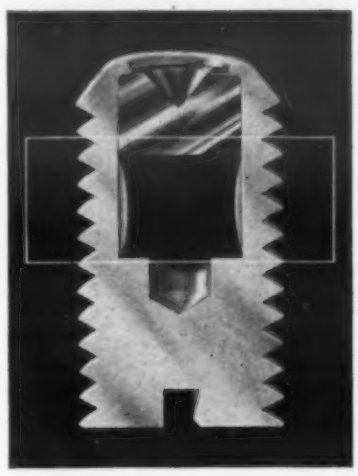
Mail the coupon and we'll show you how to make big savings at your loading dock.

Rotary® Leva-Dock

MAIL FOR COMPLETE DATA
Rotary Lift Co.
1065 Kentucky, Memphis 2, Tenn.
Send information on the LEVA-DOCK to:
Name .....
Address .....
..... State .....
City .....

▲ For more details circle **NED-808 H3** on enclosed inquiry slip ▲

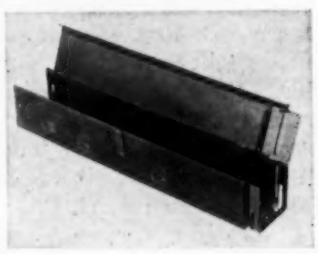
CUSHIONED JEWEL MOUNTINGS withstand vibration and shock



Protection against stresses of vibration, shock and improper adjustment, are provided by these cushioned jewel mountings for jewel assemblies. Resilient cushion of silicone rubber absorbs shocks and vibration and is capable of withstanding temperatures from —85 to 325° F. Application can be in delicate instruments and meters exposed to extreme conditions. Made by **Richard H. Bird & Co.,** 14 Spruce St., Waltham 54, Mass.

▲ For more details circle **NED-809 H3** on enclosed inquiry slip ▲

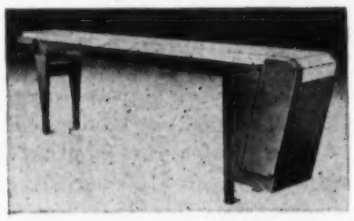
ELECTRIC DUCT speeds wireway installation



Reduced wireway installation time is reported for Lay-In duct because all lengths and connectors are hinged to provide an unobstructed channel in which to lay conductors. Need for threading or pulling conductors is eliminated. Only two screws are needed to join two duct lengths. It is made in 2½ x 2½, 4 x 4 and 6 x 6-in. sizes, and a complete line of fittings with removable covers is available. Screws are captive and self-aligning. Universal two-piece hanger further simplifies the installation. Knockouts match Square D switches, breakers and service equipment. Adapter fittings permit joining this duct with other systems or electrical equipment. It has UL approval and is made by **Square D Co.,** 6060 Rivard St., Detroit 11, Mich.

▲ For more details circle **NED-810 H3** on enclosed inquiry slip ▲

METAL BELT CONVEYORS links run on protected ball bearings to convey loads up to 16 tons

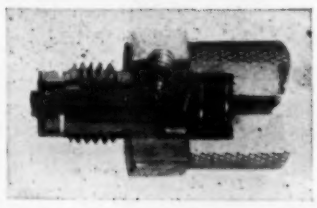


Loads ranging from a few ounces up to 16 tons can be carried on Armorbelt metal belt conveyors. Units resist wear, heat, cold, high impact and oils. Individual metal link construction eliminates belt tracking problems, and power requirements are minimized by having entire belt run on protected ball bearings. Belt can become a production line by bolting or welding jigs and fixtures to the steel belt links.

Conveyors are made in inclined or vertical models for floor-to-floor conveying of packages weighing up to 1000 lb at speeds up to 20 packages per minute. Horizontal units are furnished for standard and heavy duty applications in widths from 6 to 120 in. and lengths up to 200 ft. Belt can also be made of aluminum or stainless steel. Side leaves and tables, cleats, diverters, spurs and other accessories are available. Made by **M-H Standard Co.,** 513 Communipaw Ave., Jersey City 4, N. J.

▲ For more details circle **NED-811 H3** on enclosed inquiry slip ▲

BLEEDER VALVE for hydraulic and pneumatic lines



Semiautomatic in operation, this bleeder valve is adaptable to both hydraulic and pneumatic lines of any size or pressure. It is spring-loaded, using a channeled knife-edged cap that uncovers the bleed port with a twist of the external head. Outlet port is threaded for installation of a hose or tube. Internal O-ring prevents leakage around the connecting shaft. Made by **Greer Hydraulics, Inc.,** 452 Eighteenth St., Brooklyn 15, N. Y.

▲ For more details circle **NED-812 H3** on enclosed inquiry slip ▲

WATCH OUT, ALFONSO, ONE TUMBLE'S ALL IT TAKES...

Indifference can quickly spoil a hard won reputation for quality performance. You don't take chances when you stick to a solder you know and trust . . . time-proved Kester Solder, constant in solder alloy and always consistent flux formulae.

WRITE TODAY *for your free copy of the Kester Technical Manual, "SOLDER and SOLDERING Technique."*

KESTER

SOLDER COMPANY
4249 Wrightwood Avenue • Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

▲ For more details circle **NED-813 H3** on enclosed inquiry slip ▲

This 2 IN 1 CONVEYOR can cut equipment costs in half

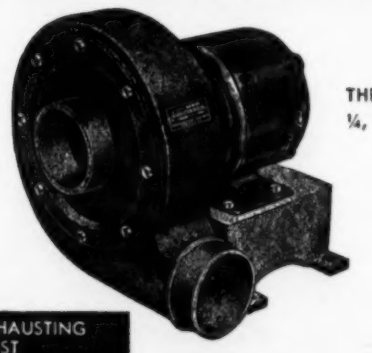
TOTE-ALL handles BOTH bulk and packaged materials

FOR many firms a Lake Shore Tote-All eliminates the need for a second conveyor—for others a Tote-All is real handy to have around, because in ten minutes, or less, this sturdy, portable unit converts into either a bulk or package conveyor—simply by adding or removing sideboards and hopper. Here's unbeatable flexibility for yard or warehouse. Coal by the ton—cola by the case, move it all with a Tote-All. Write Lake Shore for details.

LAKE SHORE Engineering Company
IRON MOUNTAIN, MICHIGAN
Dealers in all principal cities

▲ For more details circle **NED-814 H3** on enclosed inquiry slip ▲

THE Sutton MOTOR DRIVEN PRESSURE BLOWER



THREE SIZES ¼, ½, 1 H.P.

USE FOR
- EXHAUSTING
- DUST
- SMOKE
- FUMES
- VAPOR
- FORGE BLASTING

CONVEYING COTTON, WOOL, SHAVINGS
COOLING AND DRYING

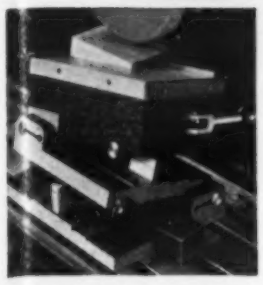
MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY. CENTRIFUGAL TYPE. Direction of discharge may be changed to any of eight 45 degree positions. Straight wall construction reduces windage and increases efficiency. Standard 3450 r.p.m. direct-connected 60-cycle ball bearing motor, open or totally enclosed types. Capacities, 100 to 800 cu. ft. per min. at static pressures from ½" to 6". Write for literature and prices.

Sutton Manufacturing Corp.
112 W. WILSON AVENUE NORFOLK, VIRGINIA

▲ For more details circle **NED-815 H3** on enclosed inquiry slip ▲

ANGULAR SET-UPS

to gauge-block accuracy IN A FEW MOMENTS



SEND FOR FREE CATALOG TODAY

the Magna-Sine

Any angular set-up, single or compound, takes only the time to look up the angle in the Robbins Table of Constants and to insert the indicated gauge blocks between the Magna-Sine plates. It's fast—it's positive, to gauge-block accuracy. Work is held by magnetic attraction. In two models and two sizes; also in non-magnetic models for inspection work.

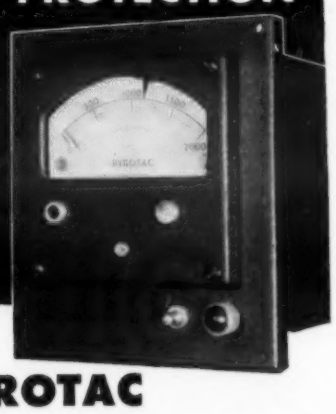
OMER E. Robbins COMPANY

Manufacturers of the MAGNA-SINE and Other Precision Tools

5722 TWELFTH ST. • DETROIT 8, MICH.

For more details circle NED-816 H3 on enclosed inquiry slip

AUTOMATIC PROTECTION OR CONTROL for your heating process



...WITH ALNOR PYROTAC

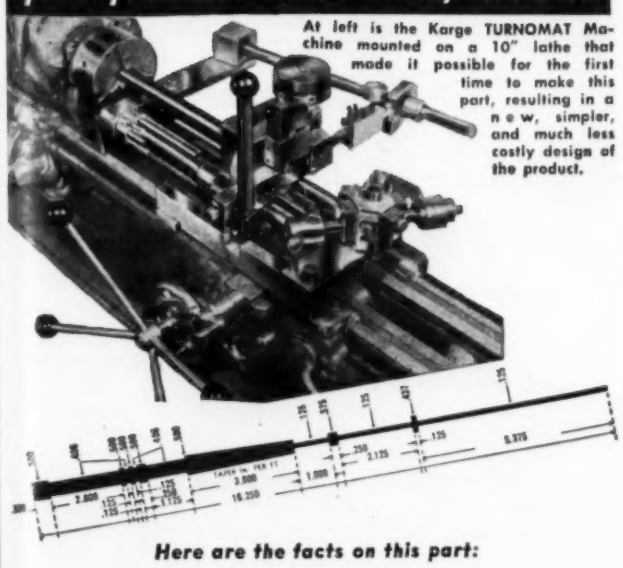
Here's a simple, low-cost way to obtain *AUTOMATIC PROTECTION* against damage due to excessive temperatures . . . safeguard your investment in heating equipment and materials in process. This precision-built instrument constantly indicates temperature of the heated equipment and sounds an alarm and/or shuts down the heated circuit at a safe, pre-set temperature. It may also be used as a *CONTROLLER* on a process requiring shutdown upon reaching a final process temperature—such as ceramic kilns, molds, etc. Automatic thermocouple break protection assures safety if couple or extension wires should break.

Ask your Alnor representative for details on this sturdy, precise instrument. You'll find the price of less than a hundred dollars unusual for an instrument of this type. Write for bulletin that contains complete description and wiring diagrams of actual applications. Illinois Testing Laboratories, Inc., Room 529, 420 N. LaSalle Street, Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

For more details circle NED-817 H3 on enclosed inquiry slip

you say "It's IMPOSSIBLE"...well, here it is!



At left is the Karge TURNOMAT Machine mounted on a 10" lathe that made it possible for the first time to make this part, resulting in a new, simpler, and much less costly design of the product.

Here are the facts on this part:

INSTRUMENT SPINDLE

Material — Stainless steel	Number of pieces — 2500
Finish — 16 micro inches	Time — 11 minutes each
Diameter tolerances ±.001	Set-up time — 15 minutes, total
Number of Diameters — 14	Tooling cost — $11.25

Make us prove we can solve your problem, *at real savings for you.* Mail us your sample or blueprints; our engineers are eager to advise, recommend and quote you on the correct TURNOMAT equipment and tooling to give you increased production at lower cost. It costs you nothing to get the TURNOMAT facts—may save you thousands of dollars as it has other leading industries. Write today, Dept. NE.

U. S. Patent No. 2,464,813. Other U. S. and foreign patents Pending.

TURNOMAT COMPANY, INC. Brockport, New York

For more details circle NED-818 H3 on enclosed inquiry slip

STENCILING MACHINE with 15 different type fonts

Preparation of mimeograph stencils with variety of print-like faces, in various styles and sizes, is possible with the Stencil-Writer. Drawer at base of machine contains as many as 15 type fonts, each a complete unit of upper and lower case together with symbols and punctuation marks. Changes from one to the other of any two type fonts in machine are accomplished by turning a knob. Thus choice of body-copy type style permits use of matching italics or bold-face type for subheads. Changeable spacings permit condensing of types to save space or alignment of both margins. Electrically controlled impression mechanism gives each character same uniform impact. Made by **Ralph C. Coxhead Corp.**, Dept. M, 720 Frelinghuysen Ave., Newark 5, N. J.

For more details circle NED-819 H3 on enclosed inquiry slip

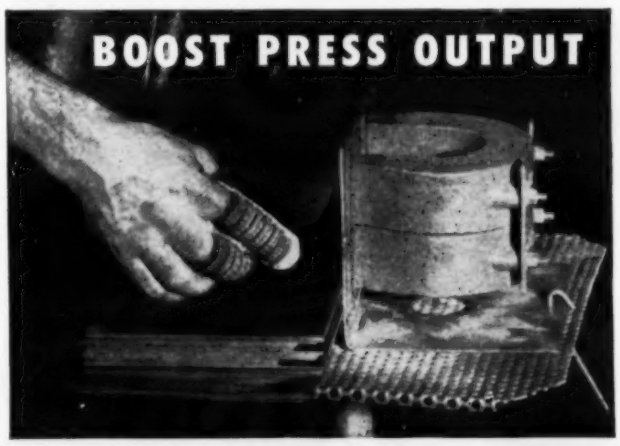
ELECTRIC IMPACT WRENCH delivers up to 2000 blows/minute and can be operated by one hand

Accommodating a variety of sockets and attachments, this ½-in. square drive electric impact wrench can also be used for driving gear pullers, stud removers, screwdriver bits, hole saws, structural reamers and mortar bits. After certain torque is reached, rotary action of motor is transferred through impact mechanism to sharp blows at drive spindle. Blows, of which up to 2000 can be delivered per minute, become heavier as torque increases.

Because there is no direct connection, motor runs continuously and cannot be stalled or burned out by overload. Forward or reverse action is obtained by twisting end cap. Planetary reduction gearing is used for reducing motor speed. Both gears and impact mechanism are housed in forward section and are easily removed for cleaning. Models for operating on 115 and 220 v are offered, and both have 25-ft neoprene covered cord. Made by **Snap-on Tools Corp.**, Dept. NED, 8028 28th Ave., Kenosha, Wis.

For more details circle NED-820 H3 on enclosed inquiry slip

BOOST PRESS OUTPUT



with DINGS Magnetic Sheet Floaters

- Non-electric Dings Sheet Floaters separate stacked steel sheets automatically so they're easily grasped by operator for faster feeding
- Prevent feeding of doubles — protect dies
- Handle irregular sizes, odd shapes
- Protect painted and finished surfaces
- Pay for themselves in 2 to 3 months time

PUT Dings Sheet Floaters on trial in your shop. Money back in 30 days if you're not satisfied — write DINGS MAGNETIC SEPARATOR CO., 4758 W. Electric Ave., Milwaukee 46, Wisconsin, for details today.

SF 153

DINGS Magnets

For more details circle NED-821 H3 on enclosed inquiry slip

THE costliest cutting tool IN YOUR PLANT—

No — it's not a tool of production — it's a tool of destruction! . . . it is ABRASIVE GRIT — by-product of your grinding, cutting and finishing equipment.

CYCLONE TYPE for tool and general grinding, polishing, woodworking, plastics, glass, ceramics, etc.

FILTER TYPE for grinders, drills, lathes, surface grinders, etc.

Hammond DUSKOLECTORS

A MUST FOR DUST!

These units trap dangerous dust before it can harm the health and efficiency of your employees and damage valuable machinery . . . These two distinct types of Duskolectors offer the best and most economical solutions to your special dust problems. Hammond experience will help you too, in eliminating the dust menace . . . Write today for bulletin.

Hammond Machinery Builders INC

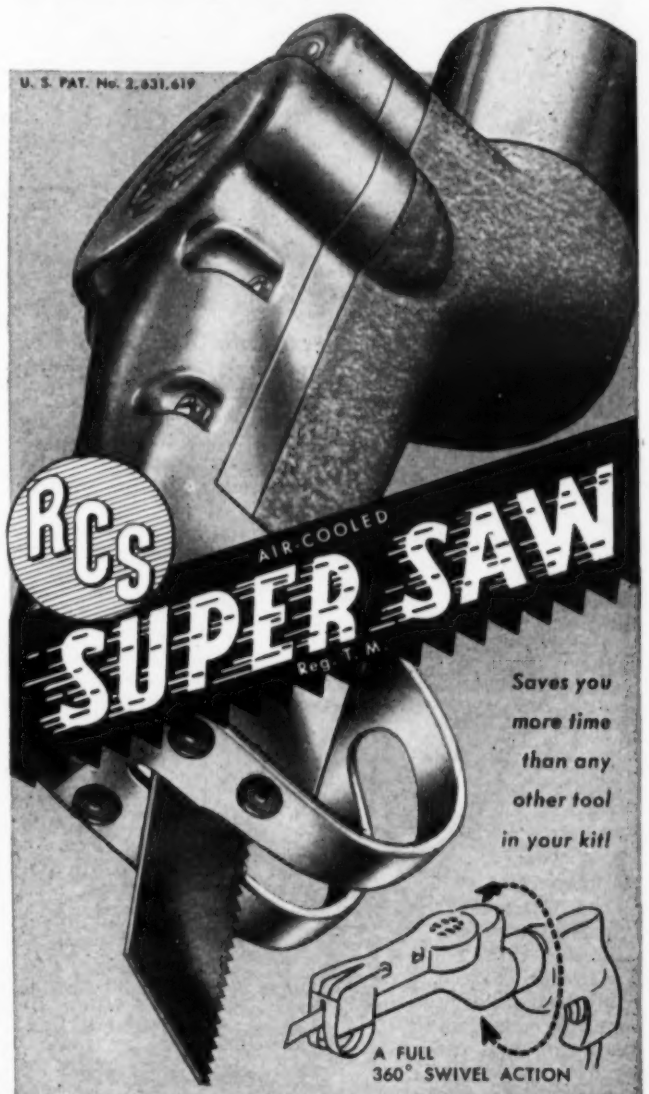
1623 Douglas Avenue • Kalamazoo, Michigan

Hammond OF KALAMAZOO . GOOD MACHINERY SINCE '82

For more details circle NED-822 H3 on enclosed inquiry slip

Rugged!

4 YEARS of HEAVY-DUTY USE *and still going strong . . . . .*



A "lifetime" tool with built-in blower, ball and roller bearings, sealed lubrication, etc. Safe—(two-handed operation required). 360° swivel action for maximum versatility. Blades to cut everything including stainless steel. Fits your present ¼" heavy-duty drill.

RCS TOOL SALES CORPORATION

JOLIET, ILLINOIS

Gentlemen:

Please send us Bulletin R-8 and the name of the nearest Super-Saw distributor.

Name_____

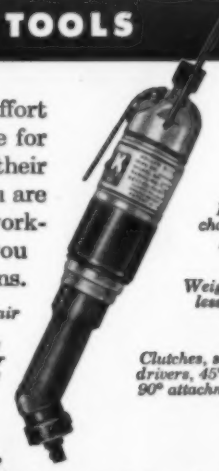
Address_____

City_____ Zone_____ State_____

For more details circle NED-823 H3 on enclosed inquiry slip

Less Fatigue More Production WITH KELLER AIR TOOLS

Less expenditure of physical effort means more energy available for intelligent workers to "use their heads." When they know you are providing the *best* air tools, workers are better satisfied—and you have improved labor relations.



Send for illustrated descriptive bulletin and detailed information

Keller Tool Company
GRAND HAVEN, MICHIGAN

For more details circle NED-833 H3 on enclosed inquiry slip

AUTOMATIC SCRAP REMOVAL ON ANY MACHINE TOOL WITH CHIP-TOTE

The May-Fran Chip-Tote continuously removes turnings, borings and chips from operating machine tools. This unit eliminates machine downtime for manual scrap removal . . . assures continuous full-production operation of machine tool . . . gets rid of uncontained scrap around machine which cuts floor and tires.

Chip-Totes can be installed as part of the original equipment or they can be incorporated as an integral operating unit on almost any machine tool currently in use.

The Chip-Tote utilizes May-Fran Hinged-Steel Conveyor Belting which is perforated to permit coolant drainage. Width, length and angle of incline can be modified to meet specific requirements. Speed of operation can be synchronized with the metal-removing capacity and rate of coolant flow of machine to which Chip-Tote is attached.

Let a Chip-Tote solve your production problems . . . automatically and efficiently.

Write today for Chip-Tote catalog.

Designers, Builders of Handling Systems 1408-MF

MAY-FRAN ENGINEERING, INC.
1711 CLARKSTONE ROAD • CLEVELAND 12, OHIO

For more details circle NED-834 H3 on enclosed inquiry slip

New Literature & Catalogs

Hand Tool Line

Crescent Tool Co.—Crescent and Crestoloy hand tools are described in 36-page general catalog No. 27. Included are wrenches, pliers, screwdrivers, tin snips, hacksaws, chisels, punches, linemen's tools, scratch awls, fence tools and nail pullers. It is indexed and prices are given.

For more details circle NED-835 H3 on enclosed inquiry slip

Packaging Tape

Polyken Industrial Tape—Affective techniques for packaging with high tensile tape are graphically described in new folder. Clear diagrams and up-to-date techniques make it valuable as a permanent reference.

For more details circle NED-836 H3 on enclosed inquiry slip

Force Feed Lubricators

Manzel—How Manzel force feed lubricators assure correct lubrication of each friction point, lengthen the life of machinery, minimize labor cost, eliminate downtime and economize on oil is explained in 12-page illustrated bulletin which describes model 25 lubricators.

For more details circle NED-837 H3 on enclosed inquiry slip

Reinforced Plastics Products

Bassons Industries Corp.—Words and pictures are used in 12-page brochure "Idea to Product" to show company's developmental work in forming thermoplastic sheeting and molding Plastrong reinforced plastics products. Formed items covered include instrument cases, tote boxes, machine guards, aircraft parts and helmets. Personnel and equipment are covered.

For more details circle NED-838 H3 on enclosed inquiry slip

Flaw Location

Turco Products, Inc.—Flaw location by surface-active chemistry using the Dy-Chek portable parts inspection method and Chek-Spek for production line inspection are described in the 12 pages of booklet A-500. Processes are explained and their applications presented.

For more details circle NED-839 H3 on enclosed inquiry slip

Induction Furnaces

Pittsburgh Lectromelt Furnace Corp.—High frequency induction furnaces with capacities ranging from 500 lb to 15 tons are described in illustrated bulletin. Manufactured under Swiss license, units feature close temperature and analytical control.

For more details circle NED-840 H3 on enclosed inquiry slip

Technical Ceramics

American Lava Corp.—Here is a primer on AlSiMag technical ceramics which, according to the 12-page illustrated bulletin 533, may give you better product performance, design improvements, better reliability and precision and lower cost. Many answers to technical questions are given.

For more details circle NED-841 H3 on enclosed inquiry slip

You Get the BEST!

IN METAL STAMPINGS—WASHERS PARTS ASSEMBLY WORK from

SEND TODAY FOR THIS VALUABLE 16-PAGE BOOKLET

Contains complete data on:

TENSION WASHERS
FRICTION WASHERS
FINISHING WASHERS
WIRE TERMINALS
BLANKING DIES
DISHED BLANKS
STANDARD GAUGES
GENERAL STAMPINGS
PROGRESSIVE AND COMPOUND DIES

We have a press capacity up to 150 tons—depth of draw to 4 in.

THE QUADRIGA MANUFACTURING CO.
221 WEST GRAND AVENUE • CHICAGO 10, ILLINOIS

For more details circle NED-842 H3 on enclosed inquiry slip

Mid-States Simplified Welding

Cuts Production Costs!

- AUTOMATIC ARC STARTING
- INSTANT AMPERAGE CHANGES
- WELDS FERROUS AND NON-FERROUS METALS
- UNVARYING OUTPUT—NO "CREEPING"
- NO PRESSURE TO CAUSE PINHOLES
- NO MOVING PARTS TO WEAR OUT
- 100% PENETRATION—SMOOTH BEADS

You Can Do a Better, Faster, Easier Welding Job with these HEAVY DUTY Mid-States ARC WELDERS

Operators do not need special skill to do a perfect welding job with Mid-States Heavy Duty Welders. You can weld heavy and light gauges, even 22 gauge, without danger of burning through. In addition, you can do brazing, soldering, hard-surfacing and heating.

The plug-in type welder transformers are wound throughout with double glass covered magnet wire and stacked with high grade electrical sheet. The Mid-States Heavy Duty Welder is a complete outfit for every welding need.

Write today for complete descriptive literature and the Simplified Welding handbook.

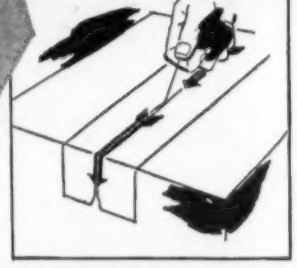
Mid-States WELDER MFG. CO.
6025 SOUTH ASHLAND AVENUE • CHICAGO 36, ILLINOIS

For more details circle NED-843 H3 on enclosed inquiry slip

The GUMMED PRODUCTS Company ANNOUNCES

Amazing New JET TAPE

World's fastest and easiest-opening GUMMED TAPE!



• Jet Tape now makes it easy to open boxes by a simple pull on the string in the center of the tape. Zip! —and the box is open!

In every industry, Jet Tape can be used to improve many present packaging methods. Write today for descriptive literature and further data on Jet Tape for your particular packaging application.

Pull the string and ZIP—it's open!

The GUMMED PRODUCTS Company
1953 S. UNION ST., TROY, OHIO

For more details circle NED-844 H3 on enclosed inquiry slip

WHY NOT RE-ASSURE YOURSELF BY USING Trabon POSITIVE LUBRICATION?

this has a BEARING on the subject

A Trabon Automatic Lubrication System in your plant will positively guarantee that no bearing will burn out from lack of oil or grease.

Trabon's positive action comes from a series of feeders, each of which delivers the proper amount of lubricant to the bearing point before moving on to the next one.

A single indicator at the pumping point tells the complete story of the lubricating cycle.

Trabon completely-sealed systems operate in dust, dirt, grime, steam, ice . . . it doesn't matter how bad your operating conditions are.

Bulletin 529 will provide you with more information, and we'll gladly send it along on request.

Trabon ENGINEERING CORPORATION
1914 E. 40th STREET • CLEVELAND 3, OHIO
Oil and Grease Systems

For more details circle NED-845 H3 on enclosed inquiry slip

ARO BLOW GUN

Metered air pressure!

- Throttle valve meters air exactly...just press for more pressure ...or set for *fixed pressure.*
- Extremely simple design.
- Easy to use—fits your hand.
- One piece cast housing—sturdy, rugged construction.
- For wide range of cleaning jobs in shops, foundries, production, inspection, shipping, etc. Write for details.

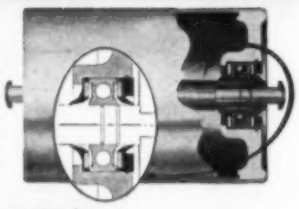
The Aro Equipment Corp., Bryan, Ohio
Offices in All Principal Cities
Aro Equipment of Canada, Ltd., Toronto, Ont.

ARO BLOW GUN
Also ... Air Tools ... Lubricating Equipment ... Hydraulic Equipment ... Aircraft Products ... Grease Fittings

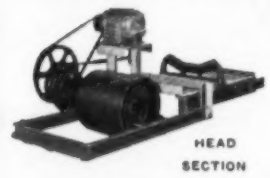
For more details circle **NED-846 H3** on enclosed inquiry slip

IMPROVED HEAVY-DUTY
TRAN-SEAL IDLER

A service-proven *heavy-duty* belt conveyor idler. Need for re-lubrication is "designed-out" by improved bearing seals working together with specially designed bearings cavity closures. Keeps lubricant in, and foreign material out.



for TRANSALL TYPE C BELT CONVEYORS



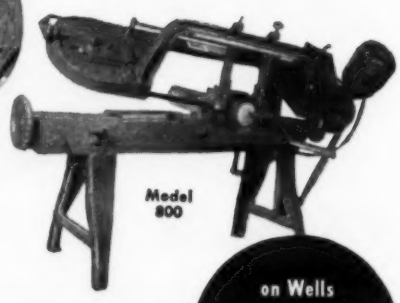
Use pre-fabricated, pre-engineered Head and Tail Sections and variable number Intermediate Sections for easy, quick assembly to fit your needs. Easy to lengthen. Write TRANSALL, Inc., 120 N. 11th, Birmingham 4, Alabama

TRANSALL SECTIONAL BELT CONVEYOR SYSTEMS

For more details circle **NED-847 H3** on enclosed inquiry slip

NOW Wells offers you fool-proof blade tensioning ...

Above is a close-up of the new Wells blade tensioning device.



on Wells No. 5, No. 8, No. 12 and Model 800 cut-off saws

NOW IT IS POSSIBLE to maintain a constant blade tension on Wells cut-off saws. You can replace or change the blade any number of times, yet quickly and easily duplicate the correct blade tension. The new device is standard equipment on the models listed above. Simply turn the tension hand wheel until the fixed and moving indices coincide. At this point the blade tension is correct regardless of variation in blade length.

Products by Wells are Practical
Wells METAL CUTTING BAND SAWS
WELLS MANUFACTURING CORPORATION
1313 HARDING ST., THREE RIVERS, MICHIGAN

For more details circle **NED-848 H3** on enclosed inquiry slip

New Processes & Materials

COOLANT-LUBRICANT for cutting, grinding and forming

Shear-Speed soluble oil is a coolant-lubricant based on a multi-viscosity blend which enables it to handle a wide range of speeds, feeds and materials. Advantages reported include increase in tool life and reduced machine down-time. Pastel blue color reduces glare and eye strain for the machine operator. Other features include no rancidity or odor over long periods of use, additive for protection of hands, stable emulsion over wide temperature range, antifoaming and antismoking under all normal operating conditions and ability to inhibit rust and dissipate heat rapidly. Dilutions of 10 to 1 to 40 to 1 are recommended for most machining operations, with grinding using dilutions up to 80 to 1. Made by **Michigan Tool Co.,** Shear-Speed Chemical Products Div., 7204 E. McNichols Rd., Detroit 12, Mich.

For more details circle **NED-849 H3** on enclosed inquiry slip

OPTICAL CHARTS flexible, designed for comparator use

Produced from a flexible material, Flexo-Charts utilize a photographic process to imbed chart lines exactly in the center of the material, eliminating the problem of changing focal planes in optical comparator work. Process used produces charts from pencil or ink drawings or glass charts, and any number of perfect duplicates can be made from a completed negative. Charts are not affected by normal handling wear, and are easily cleaned with soap and water. They will not break or distort if dropped, and are chemically inert and dimensionally stable under normal storage and operating conditions. Distributed by **Derrick Johnston,** P. O. Box 1174, Erie, Pa.

For more details circle **NED-850 H3** on enclosed inquiry slip

WOOD SEALER also acts as filler

Besides acting as a sanding sealer for wood that is to receive subsequent finishes, this product is also a filler. After the open cells of the wood are filled, light sanding leaves a uniformly dense surface. Sanding sealer can be used on all common woods and plywood, except such open grain woods as oak which take regular Platon filler. Made by **Minnesota Platon Corp.,** 1511 Highway 23 N.E., Pipestone, Minn.

For more details circle **NED-851 H3** on enclosed inquiry slip

IT'S THE NEW P&S **Turnlok** LINE
Receptacles Caps Connectors

"A Turn of the Cap and It's Locked"

Write Dept. N.

P&S Turnlok means time saved...money saved...increased safety. Easy to wire... with added safety features ... will give years of trouble-free service.

A line on your letterhead will bring you the new 8-page Turnlok descriptive manual.

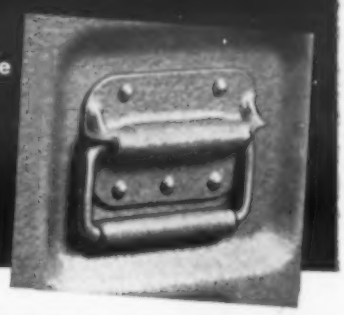
PASS & SEYMOUR, SYRACUSE 9, N. Y.

NEW YORK OFFICE 71 Murray St., New York 7, N. Y. CHICAGO OFFICE 1229 W. Washington Blvd., Chicago 7, Ill.

For more details circle **NED-852 H3** on enclosed inquiry slip

Best handle ... *by far!*

- Rugged • No Rattle
- Rust-proof
- Built to Military Specifications



Attention manufacturers of portable equipment, carrying cases, parts boxes, etc.! If your product requires side-carry handles, install the best—the Bendix-Friez handle. This superior handle was developed to meet strict military requirements for many specialized equipment uses. Ruggedly built of aluminum and stainless steel in a sturdy design, it knows no equal for long, faithful service. Can be riveted or welded to any kind of container . . . or depressed in the surface, if desired. Unique "snap-back" feature stops rattle from shock and vibration. Prompt attention to both large and small lot orders. Try us today.

Bendix-Friez

FOR FULL DETAILS, WRITE:
FRIEZ INSTRUMENT DIVISION OF Bendix
1344 Taylor Avenue, Baltimore 4, Maryland

Export Sales: Bendix International Division, 205 East 42nd Street, New York 17, N. Y.

For more details circle **NED-853 H3** on enclosed inquiry slip

Johnson Sleeve Bearings available from distributors

This complete line of standard sleeve bearings is the largest in the market. It includes General Purpose Cast Bronze Bearings, Electric Motor Bearings, Graphited Bearings and Ledaloyl Self-lubricating Bearings. In addition Johnson Babbitt Metal and over 400 sizes of Universal Bronze Bars. Order from catalog—we'll send you the latest copy free.

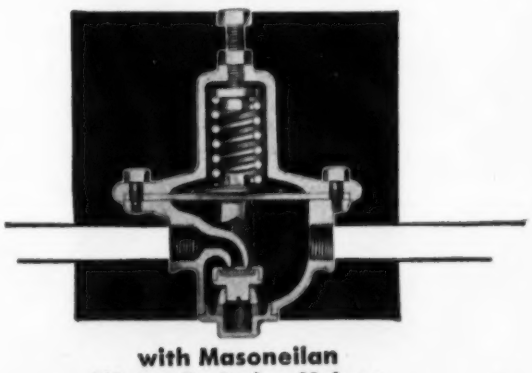
JOHNSON BRONZE CO.
580 S. Mill St.
New Castle, Pa.

JOHNSON B BEARINGS *Sleeve-Type*

Write Today

For more details circle **NED-854 H3** on enclosed inquiry slip

STOP DESTRUCTIVE
VIBRATION
OF WATER LINES



with Masoneilan Water Reducing Valves

By maintaining uniform industrial or domestic water pressures, this compact, sturdy reducing valve not only reduces destructive strain on plumbing, but also stops "singing" and splashing from fixtures — without cutting down flow. Lasts for years with practically no maintenance.

Initial pressures up to 150 lbs., reduced to any pressure from 10 to 100 lbs. Sizes from ¼" to 2".

Call your local Mason-Neilan Industrial Distributor for fast, dependable service.

MASON-NEILAN REGULATOR CO.
1189 Adams St., Boston 24, Mass., U. S. A.

For more details circle **NED-855 H3** on enclosed inquiry slip

SPRACO NOZZLES

Write for NOZZLE CATALOG to
SPRAY ENGINEERING CO.
106 CENTRAL STREET • SOMERVILLE 45, MASS.

For more details circle NED-856 H3 on enclosed inquiry slip

For 30 Years—EXPERTS

REPRESENTED NATIONALLY
IN PRINCIPAL CITIES.

DAYTON ROGERS
Manufacturing Company

Minneapolis 7, Minn.

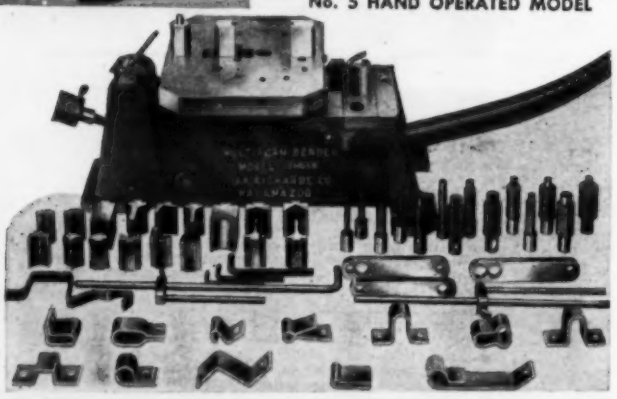
For more details circle NED-857 H3 on enclosed inquiry slip

THE FAMOUS MULTIFORM BENDER CUTTER

Produces Without Special Tooling—Saves Die Costs
Saves on Expensive Presses

This efficient machine is useful in all lines of trade, spring plants, radio and electrical equipment manufacturers. Complete with tooling, for bending material up to ⅛" x 1½".

No. 5 HAND OPERATED MODEL



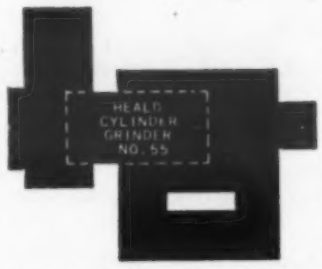
AIR OPERATED MODELS AVAILABLE IN THIS AND LARGER SIZES

FIVE-IN-ONE-TOOL—ALSO LARGER MODELS
IT BENDS FLAT AND ROUND STOCK INTO ANY SHAPE, CUTS AND PUNCHES FLAT STOCK

J. A. RICHARDS CO. MYRTLE & PITCHER STS. KALAMAZOO, MICHIGAN

For more details circle NED-858 H3 on enclosed inquiry slip

FILM LAYOUT TEMPLETS
reproduce 10,000 machines to scale



Representing the overall dimensions of standard machine tools or industrial equipment, plastic film templets simplify the production of two-dimensional plant layouts. Printed on 0.0075-in. acetate film, templets represent the actual floor contact of the machine or equipment in dotted lines, as shown. Units are clearly identified with typeset lettering. Stock items include over 10,000 standard machine tools and metalworking plant equipment in exact scale at an average cost of 8 to 12 cents each. Made by **Repro-Templets Inc.**, Dept. NED, Oakmont, Pa.

For more details circle NED-859 H3 on enclosed inquiry slip

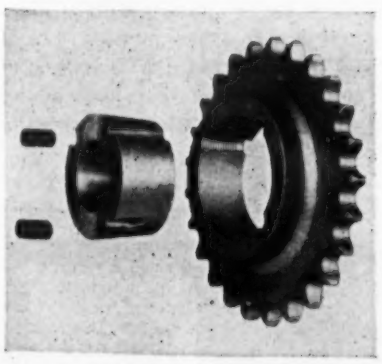
FLOW DETECTOR
measures air flow and liquid levels and can trigger any type control

Responding to changes in air-flow and liquid levels, Detect-A-Flow has an operating range from minus 65 to 175° F. Applications include use as a warning device in air-cooled equipment or as a ventilation control; and as a liquid level detector or controller in storage and supply tanks. Unit responds to liquid level changes as small as 0.1-in., and to changes in air flow from between 0.25 and 1 ft per second depending on the rate of flow.

One leg of unit is continuously heated, and expands or contracts as conduction varies with changes of air flow rate or liquid level. This movement is magnified by lever and strut arrangements in the other leg to make or break an electrical circuit. Unit is hermetically sealed, compact, and weighs approximately 8 oz. Heater section draws 35 w at 28-v ac or dc; a 115-v model will also be available. Control can handle 5 amp at 115-v ac or 2 amp at 28-v dc. Made by **Fenwal Inc.**, 70 Pleasant St., Ashland, Mass.

For more details circle NED-860 H3 on enclosed inquiry slip

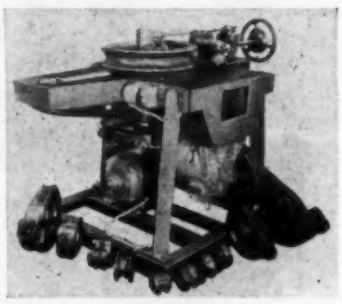
SPROCKET WHEELS
taper bushings simplify selection



Featuring Taper Lock bushings, stock sizes in line of roller chain sprocket wheels can be securely mounted on a shaft without reboring. Set screws force and hold the split tapered bushing in the tapered bore of the sprocket wheel, causing its full length to lock on the shaft. Disassembly is by turning set screws in removal holes. Sprocket wheels for ½, ⅝, ¾, 1 and 1¼-in. pitch single-width chains are available from stock. Made by **Link-Belt Co.**, Dept. NED, 307 N. Michigan Ave., Chicago 1, Ill.

For more details circle NED-861 H3 on enclosed inquiry slip

PIPE BENDING MACHINE
handles ½ to 2-in. standard pipe



Powered by a 2-hp motor, the 2PBR pipe bending machine will bend ½ to 2-in. U. S. standard pipe at radii approximately five times pipe size up to 180 degrees. Maximum bend is 13 in. It will handle bends up to 1½-in. extra heavy and 1½-in. double extra heavy. Its use covers much plant maintenance, indirect heating and conduit work. Unit is equipped with rollers and quadrants for all fixed radius bends within its capacity. Made by **American Pipe Bending Machine Co.**, 21 Furnace St., Poultney, Vt.

For more details circle NED-862 H3 on enclosed inquiry slip

Cut drafting time 40% with a BRUNING DRAFTER

Want to speed drafting in your office by as much as 40% — as proved by actual test? Here's how Bruning Drafters make such time savings possible:

COMBINES FIVE IN ONE . . . T-square, straightedge, triangle, protractor and scales are combined in a single precision machine.

EASY "FLOATING ACTION" . . . patented Equipoise mechanism counteracts gravity on inclined boards . . . mounted on friction-free needle bearings.

AUTOMATIC SETTINGS . . . at touch of button, Touch Control automatically locks Drafter at any of 24 commonly used 15-degree-increment angles. In-between angles are readily set.

FOR YOUR FILE . . . phone or write Bruning — there's an office near you — for free booklet on time-saving Bruning Drafting Machines. Charles Bruning Co., Dept. S83, 4700 Montrose Ave., Chicago 41, Illinois. A-3

BRUNING
Everything for the Engineer and Draftsman

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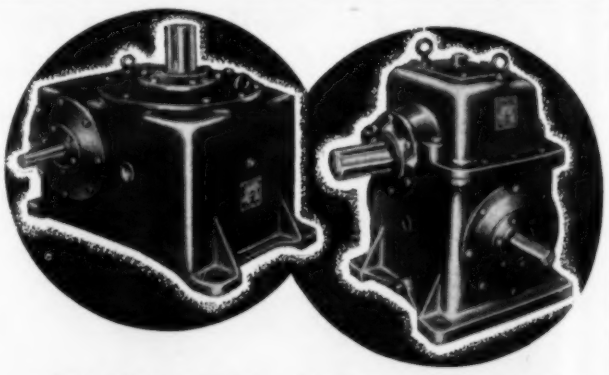
MECHANICAL HANDLING SYSTEMS INC.
4615 NANCY AVE., DETROIT 12, MICH.
OFFICES IN PRINCIPAL CITIES
In Canada—Canadian Mechanical Handling Systems Ltd., Toronto

For more details circle NED-864 H3 on enclosed inquiry slip



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. . . assure smooth, trouble-free operation and better power transmission.

New developments in manufacture provide precision generated gears which give improved performance and greater load-carrying capacity.

Available in horizontal, vertical and Hytop designs. Ratios up to 4108 to 1 or higher when required.

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Better Power Transmission Through Better Gears

For more details circle NED-865 H3 on enclosed inquiry slip

TOOL of a THOUSAND USES

TRI-SAW, All-Purpose, Portable Power Hacksaw

Still the same low price. ONLY $37.50

Makes Any Cutting Job Quick . . . Easy . . . Economical

Simply attach Tri-Saw to any 1/4" or 5/16" heavy duty drill—then zip through wood, sheet metal, heavy metal, nails, pipe and what have you, in seconds! Use this sensational time and work saving tool and you'll say it's the best all-purpose saw on the market. Only Tri-Saw gives you these exceptional features:

- No side torque or spin
- One shot lubrication
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TRI-SAW CORPORATION
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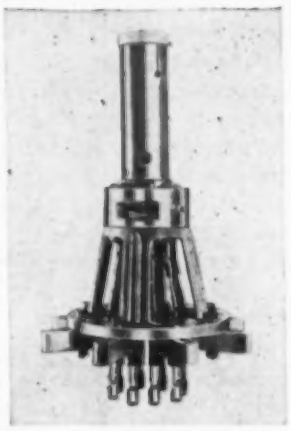
For more details circle NED-866 H3 on enclosed inquiry slip

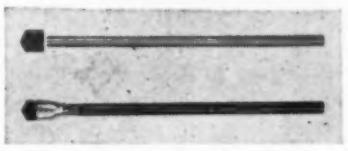
TAPPING HEAD
taps two, three or four holes



Reverse mechanism is built in the head of this universal joint type adjustable tapping head. Unit is 1 in. longer that the standard universal joint drilling head. Reversible head is designed to tap two, three or four holes in any pattern from 11/16-in. centers to within 5¼-in. diameter circle. Taps can be from No. 0 to ¼-in. Ball thrust bearings are incorporated at all thrust points. Oilite radial bearings are also used. Made by **Errington Mechanical Laboratory, Inc.,** 26 Norwood St., Staten Island 4, N. Y.

For more details circle NED-869 H3 on enclosed inquiry slip

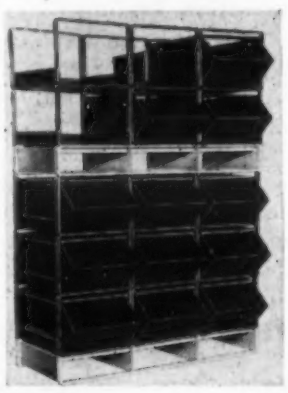
CARBIDE TIPPED DRILL
for plastics and cast iron



Designed for drilling plastics and shallow holes in cast iron, this fluteless carbide-tipped drill consists of a shank measuring between 50 and 60 per cent of the tip diameter. Shank and tip are brazed together (see illustration). Drill will penetrate cast iron with a feed of 0.003-in. per revolution. Braze material is built up around the tip to provide strength and rigid support. Sizes from 13/64 to 11/16-in. are available. Made by **Hayden Twist Drill Co.,** Dept. B, 8626 Lyndon Ave., Detroit 21, Mich.

For more details circle NED-870 H3 on enclosed inquiry slip

DOUBLE-FACED PALLET
designed for Stackrack assemblies



Fork truck handling of parts and materials stored in Stackracks is possible with this double-faced pallet. Stackracks, into which Stackbins, boxes and tote pans slide like drawers, fit upon the pallets with adequate clearance for truck handling. Bottom of each pallet will interlock with the top of a Stackrack assembly so that palletized units can be stacked one above the other. Pallets are channel and formed steel. Made by **Stackbin Corp.,** 1081 Main St., Pawtucket, R. I.

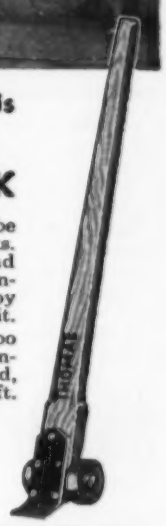
For more details circle NED-871 H3 on enclosed inquiry slip

This Very Odd-Looking Truck is one of the Handiest Made

THOMAS PRY TRUCK

A tremendous amount of freight can be moved by 2 men with Thomas Pry Trucks. Sharp steel nose slides under load and powerful leverage (5000 lbs. capacity) enables user to raise and move load, or by raising load to place rollers on dollies under it.

Crates and machinery, too heavy or too bulky to handle with anything else manually, can quickly and easily be shifted, stored, loaded or unloaded. 5, 6 or 7-ft. handle lengths.



Write for Free Literature showing other models (4250 and 3500 lb. load capacities).

THOMAS TRUCK & CASTER CO.
331 Mississippi River, Keokuk, Iowa

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USE JOMAC®
ARMORKOTE WORK GLOVES

ARMORKOTE Gloves—Jomac Cloth with plastic-coated palm and fingers. Widely used in handling steel and sheet metal, rough and finished castings, heavy machinery and machine parts; concrete block, bricks, lumber and structurals, and for general handling.

ABRASION RESISTANT • POSITIVE GRIP • OUTWEAR LEATHER

Write for new Jomac catalog and samples

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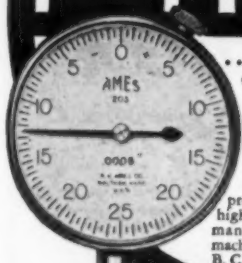
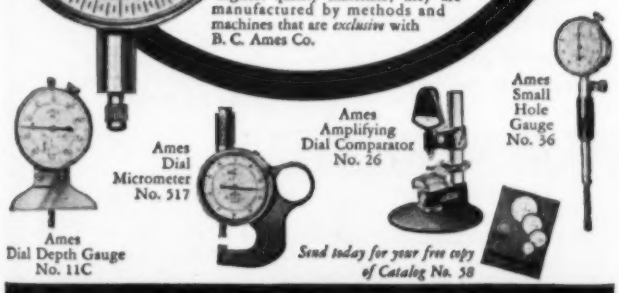
AMES



...the preferred Dial Indicators

One of America's largest and most famous mass-producers recently chose Ames as preferred source of supply for indicator gauges. They did because the four sizes of Ames "Hundred Series" indicators fit every measuring requirement; they are *accurate, sensitive,* low in friction, yet are *rugged* and *tough*—give *more* on-the-job time. All Ames products embody latest design and highest-quality materials; they are manufactured by methods and machines that are *exclusive* with B. C. Ames Co.

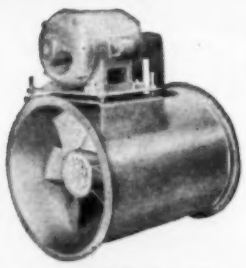


Send today for your free copy of Catalog No. 58

Representatives in principal cities. B. C. AMES CO. *34 Ames Street Waltham 54, Mass.*
Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

For more details circle NED-867 H3 on enclosed inquiry slip

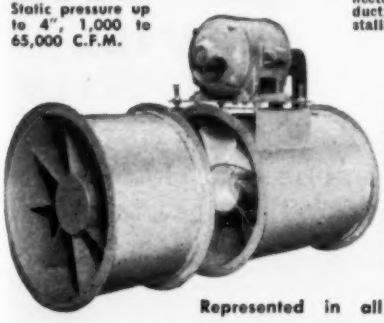
AIR



Industrial Air units are simple to install and maintain. Bearings and drive are completely protected from the exhaust air and can be replaced or serviced without removing the unit from the system. Available to your job needs and specifications, either direct or belt driven units, sizes from 12" to 48", motors from ⅛ H.P. to 50 H.P. Static pressure up to 4", 1,000 to 65,000 C.F.M.

TUBEAXIAL FAN

Designed especially for the critical and toughest ventilation or exhaust problem. May be connected to inlet or outlet duct, or both, as the installation may require.



VANEAXIAL FAN

Illustration shows installation of vanes on the discharge side of propeller. Waste energy is converted to useful work. The guide vanes straighten out the air stream, assuring a true axial flow of air.

Represented in all principal cities
Write Dept. 401 for complete catalog

THE HARVEY P. BERTRAM CO.
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For more details circle NED-868 H3 on enclosed inquiry slip

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FREE CATALOG—shows the great variety of small parts we can produce inexpensively and promptly. Send for copy today!

If your product uses small precision metal parts . . . pivots, pins, dowels, rollers, mandrels, needles, punches, etc. . . . send us your blueprints for a prompt quotation.

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TORRINGTON NEEDLE BEARINGS

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NEW...Handy Guide to Spark Testing Tool and Die Steels!

Here's all the information you need on Spark Testing to quickly identify standard tool and die steels.
This new, 20-page Carpenter Guide to Spark Testing will help you . . .

1. Separate mixed tool steel stocks.
2. Double-check the type of steel before starting to make a tool or die . . . and before heat treating.
3. Segregate tool steel scrap for salvage.

To help conserve steel and avoid heat treating errors that are costly in time, labor and money, put Carpenter's new Spark Testing Guide to work in your plant. This guide is offered free to tool steel users. For your copy, clip and mail coupon, now.

THE CARPENTER STEEL COMPANY
118 W. BERN ST., READING, PA.

Please send me a copy of your new, handy guide to Spark Testing Tool and Die Steels.

NAME.....TITLE.....
COMPANY.....
ADDRESS.....
CITY.....ZONE.....STATE.....
(Please Print)

To help us get this guide to you personally, be sure to include your title and Company name.

For more details circle NED-875 H3 on enclosed inquiry slip

AIRCRAFT DESIGN ENGINEERS can allow for continuously changing power and performance requirements through the complete *interchangeability* (on the same mounting base) of this new line of Guardian Aircraft Relays. Standard spacing of mounting bracket holes provides extreme flexibility. **It's the way to meet new control specifications without changes in frame drawings!** Units range from single pole, single throw (time delay available) to four pole, double throw contact combinations, with ratings from 10 amperes to 50 amperes at 28 v., D.C. All sealed in accordance with MIL-R-6106. Weights: from 7.5 ounces to 20.8 ounces. Write for Bulletin 1 AR.

200 Ampere Solenoid Contactor

NOTE THE PRECISE ALIGNMENT OF MOUNTING HOLES!

Specify from Guardian's complete range for every advantage of quick interchange!

GUARDIAN ELECTRIC
1626-J W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

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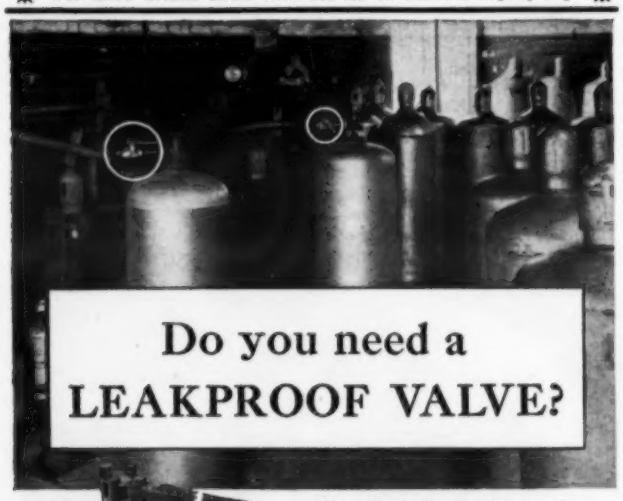

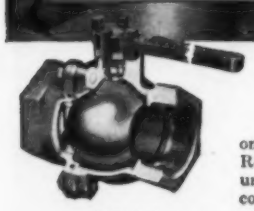
Patented

"Far ahead of any others we have used," says maintenance engineer of this propane plant.

Leakproof in a propane plant — *leakproof* on LP gas trucks — *leakproof* in a tannery — Rockwood Ball Valves are designed to operate under the roughest and most grueling of conditions. What are *your* conditions?

Remember, they're leakproof for a longer time, too — pay for themselves over and over during years of rugged service.

Other features — full, round flow; quick opening and closing; extra wear resistance. Tested and listed by Underwriters' Laboratories Inc. Write for complete details. It may pay you big dividends.

ROCKWOOD SPRINKLER COMPANY
44 Harlow St., Worcester 5, Mass.

ROCKWOOD

ROCKWOOD *FULL-FLOW* BALL VALVES
THE FLOW IS AS ROUND AS THE PIPE ITSELF

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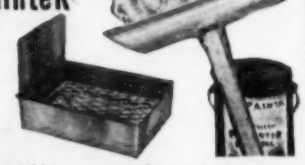
FENCES, TANKS BUILDINGS
6 TIMES FASTER
QUICK EASY WAY

with FencPainteR



Save 90% on labor costs, 50% on materials, with this amazing new painting method. Used by America's largest industrial firms, institutions, parks, playgrounds, etc. Stranded roller applicator covers big areas quickly . . . paints most any surface, minimizes waste, slashes costs. Special trial outfit, includes Industrial size FencPainteR, receptacle, 5 gal. Aluminum enamel, 1 gal. solvent (enough for 2000 sq. ft.) only $57.00 ($5.00 extra for gray, white or black) ($10.00 extra for red or green). An easy ONE DAY job!

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For more details circle NED-885 H3 on enclosed inquiry slip

New Literature & Catalogs

Heat Exchangers & Heaters

Patterson-Kelley Co.—Over a dozen types of hot water storage heaters and heat exchangers are covered in 16-page catalog No. 5. Included are horizontal and vertical storage and instantaneous water heaters, converters, condensate coolers, dishwater boosters, fuel oil heaters and instantaneous suction heaters for viscous fluids.

For more details circle NED-886 H3 on enclosed inquiry slip

Fixture Clamps

Siewek Tool Co.—Over 50 new fixture clamps in various sizes and styles are described in illustrated catalog No. 8. All now offer greater travel of the clamp bar. Added to previous line are larger range of sizes in ground jig feet, swing C-washers, coupling nuts, studs, button jig feet, knurl head screws, shoulder screws, single and double cams and small roller cam. Drill jigs include spring and rack and pinion types.

For more details circle NED-887 H3 on enclosed inquiry slip

Precision Investment Casting

Austenal Laboratories, Inc., Microcast Div.—Creative product and design engineers find that Microcast precision investment casting process for small components offers opportunities for product improvement and substantial savings in cost. So says 16-page illustrated brochure "New Opportunities" which describes the process and shows its applications and examples of close tolerances.

For more details circle NED-888 H3 on enclosed inquiry slip

Gas Gravitometers

American Recording Chart Co.—New recording gas gravitometer for use in recording - transmitting or recording-controlling is featured in illustrated bulletin 101-R2. It outlines principle of operation, besides giving data on other instruments for determining specific gravity of gases.

For more details circle NED-889 H3 on enclosed inquiry slip

Insulation Testing

Designed around the use of Vibrotest insulation resistance testing instruments, 50-page illustrated manual covers the entire field of insulation resistance testing in plain, "how-to-do-it" style. Directions are given for testing many specific types of electrical equipment and systems, and the value of continuous record-keeping is discussed. Booklet is supplemented with charts and diagrams. Available for 50 cents from Associated Research, Inc., 3786 W. Belmont Ave., Chicago 18, Ill.

For more details circle NED-890 H3 on enclosed inquiry slip

Water Repellent Wall Seal

Flexrock Co.—Based on silicone resins, Flexseal is designed to water seal natural and composition masonry surfaces and at the same time allow them to "breath", limiting internal dampness. Four-page illustrated bulletin gives both technical data and use instructions.

For more details circle NED-891 H3 on enclosed inquiry slip

Hydraulic Valves

Rivett Lathe & Grinder, Inc.—28-page catalog illustrates and describes complete line of hydraulic valves. Units are designed for service up to 1500 psi standard and 3000 psi maximum working pressures. Four-way types are offered with either standard, spring return, spring centered or ball detent actions; with five alternative piston designs; and operated either by hand, foot, cam, solenoid, oil or air pressure.

For more details circle NED-892 H3 on enclosed inquiry slip

Industrial Belting Data

Boston Woven Hose & Rubber Co.—Complete with tables, charts and diagrams, 48-page technical manual on transmission, conveyor and elevator belting is useful to both engineer and layman, having a judicious combination of general and technical material.

For more details circle NED-893 H3 on enclosed inquiry slip

V-Belt Drives

Durkee-Atwood Co., Industrial Div.—Specifically prepared for design engineers, maintenance supervisors and selected purchasing personnel, 60-page illustrated catalog "Industrial V-Belts" is packed with engineering data on V-belts and their application. Included are horsepower ratings, sheave data, drive calculation formulas and tables and related information on single and multiple V-belt drives.

For more details circle NED-894 H3 on enclosed inquiry slip

30,000TH AUTOMATIC TRANSPORTER COMES OFF LINE

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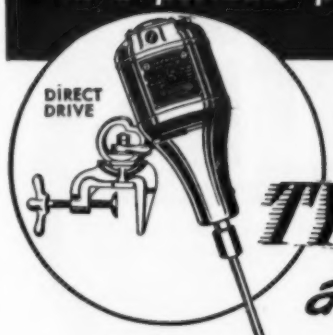
American Industry uses more Automatic TRANSPORTERS than any other operator-led electric truck. And, no wonder, for...in addition to trouble-free, superior performance and lower maintenance costs...to our knowledge...no Automatic TRANSPORTER has ever worn out!

For full details write: **Automatic**
61 W. 87th St., Dept.N-3, Chicago 20, Ill.
WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS

For more details circle NED-895 H3 on enclosed inquiry slip

Need VERSATILITY in a portable power mixer?



GET PATTERSON'S *TYPHOON and profit!*

BUILT BY THE WORLD'S LARGEST MANUFACTURER OF MIXING EQUIPMENT FOR EVERY PURPOSE

Use this famous mixing unit for your widest range of jobs — transports readily from batch to batch — keeps busy the year round! Direct drive, geared models. Write for Bulletin.

The Patterson Foundry and Machine Company
East Liverpool, Ohio, U. S. A.
The Patterson Foundry and Machine Company, (Canada) Limited
Toronto, Canada

DOES SCORES OF MIXING JOBS
FITS ALMOST ANY TANK
ADJUSTS TO ANY ANGLE
BUILT FOR HEAVY DUTY

For more details circle NED-896 H3 on enclosed inquiry slip

NOW! AN IMPROVED **LOW COST CASTER**
with Hardened Raceways Unbreakable Fork and Top Plate

SERVICE PRESSWELD CASTERS
STRONG! AGILE! QUIET!

Here, at last, is a truly efficient, light-weight caster in the low-cost field. Ideal for Dollies, Racks, Box Trucks and similar applications in the moderate capacity range. Many features usually found only in high price casters provide for years of trouble-free performance. Get PressWelds — and get SERVICE quality at low cost.

Write for sizes, capacities and low prices

INDOOR MILES Made BETTER and SAFER
SERVICE CASTER & TRUCK CORP.
Executive Offices: Albion, Michigan
Plants at Albion, Michigan & Somerville 43, Mass.

See your Classified Telephone Directory for Nearest Distributor

For more details circle NED-897 H3 on enclosed inquiry slip

WEBBER
TRADE MARK REGISTERED
TEST CHAMBER
WITH
HIGH-TEMPERATURE,
LOW-TEMPERATURE
AND HUMIDITY

★ This Webber test unit, designed for production and experimental testing, has a temperature range from +250°F., to −100°F. The pull-down to −100°F., is achieved in 45 minutes, and can be cycled from −100°F., to +250°F., in 30 minutes. 95% relative humidity is provided at temperatures between 75°F., and 95°F. Vacuum equipment can be added to simulate high altitudes. The test chamber, provided with a moisture-proof light for illumination, is 4½ cubic feet, 20 inches high, 20 inches wide, 20 inches deep. High and low temperatures are governed by a temperature controller with scale range from −200°F., to +400°F., with a 3 degree control point differential, 1½ degrees plus and minus. The humidity is regulated by a wet and dry bulb controller. Unit size is 60" long, 45" wide, 74" high. Apertures in left side of cabinet provide for electrical cables to energize equipment being tested. Webber offers a complete line of test units for various applications.

Write for more complete information

INDUSTRIAL FREEZER DIVISION
WEBBER MANUFACTURING COMPANY, INC.
(Formerly Webber Appliance Co., Inc.)
2749 MADISON AVENUE · INDIANAPOLIS 3, INDIANA

For more details circle NED-898 H3 on enclosed inquiry slip

POTDEVIN
50" wide conveyor
GLUING MACHINE
and
COMBINING PRESS

60 years of dependable service

Handles webs or sheets. Thermostat control for hot glues. Patented dial control regulates coating of adhesive. Single adjustment for overall pressure of combining rollers.

Consult our engineers on any coating problem. Literature on request.

POTDEVIN
MACHINE CO.
273 North Street,
Teterboro, N. J.

Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling.

For more details circle NED-899 H3 on enclosed inquiry slip

HERE'S THE TEAMMATE

Get fast, convenient grinding of lathe centers, cutters, reamers, rolls and dies. You can do it with THE CINCINNATI Ball Bearing Tool Post Grinder!
THE CINCINNATI mounts on the compound rest of any lathe with a 9" swing, or larger. It grinds within 2½" of the maximum swing . . . can be swivelled around the clamping bolt . . . spindle height is readily changed. Motor mount is adjustable for easy maintenance of belt tension. Write today! Ask for name of your distributor or Bulletin 53-KD.

THE BEST IN DRILLS, GRINDERS, BUFFERS, PORTABLE TOOLS

TRADE The Cincinnati MARK

THE CINCINNATI ELECTRICAL TOOL CO.
Division of THE R. K. LeBLOND MACHINE TOOL CO.
CINCINNATI 8, OHIO

For more details circle NED-900 H3 on enclosed inquiry slip

New Processes & Materials

PLASTIC TUBING for low temperature use

Adaptable for use on equipment operating at extremely low temperatures, Airflex No. 6904 clear plastic tubing is approved under Air Force specification MIL-I-7444A. It has high flexibility at low temperatures and is fungus resistant. Application can be as primary and secondary insulation, wire harness sheathing, wiring conduit where abrasion resistance is needed and as a fluid drain or transfer medium. Made by **Irvington Varnish & Insulator Co.**, Fibron Div., Dept. NED, 6 Argyle Terrace, Irvington 11, N. J.

For more details circle NED-901 H3 on enclosed inquiry slip

SILICONE RUBBER INSULATION putty type has electrical strength

Possessing a combination of physical toughness and electrical strength undiminished over a wide temperature range, SE-100 silicone rubber coating can also be used for heat resistant engine gaskets, flexible heater ducts and other nonelectrical products. The putty-like material is expected to find application for class H insulation in electrical equipment used under hot or moist conditions. Dielectric strength is retained after exposure to temperatures as high as 315° C. It can be coated on glass tapes, glass wrappers and other insulating materials at low cure temperatures. Made by **General Electric Co.**, Chemical Div., 1 Plastics Ave., Pittsfield, Mass.

For more details circle NED-902 H3 on enclosed inquiry slip

ANTICORROSION COATING provides protection up to 1500° F

A silicone resin base type of anticorrosion coating, Nerva-Kote TSI has a heat service range up to 1500° F, and is recommended for indoor or outdoor protection of such equipment as smoke stacks, boilers, distillation towers, radiators and steam lines. Product has a "no failure" record under prolonged temperature variation tests at temperatures from 60 to 1000° F and exposure to salt spray baths of 500 hours duration. Coverage is approximately 500 sq ft per gallon, and the coating is packaged in 1, 5, and 55-gallon drums. Made by **Rubber & Plastics Compound Co.**, Nerva-Kote Div., Room 1519, 46 W. 50th St., New York 20, N. Y.

For more details circle NED-903 H3 on enclosed inquiry slip

Factories, Offices, Warehouses Cut Time, Losses – Save Steps

WITH WHEELER
SOUND POWERED
Electric TELEPHONES and HANDSETS

- NO BATTERIES. No outside power.
- LOW in FIRST and LAST COST.
- CLEAR SPEECH. CLEAR SIGNAL.
- ALWAYS READY IN EMERGENCY.
- No electrical hazard.
- UP TO 12 stations intercom.
- SIMPLE standard WIRING.
- Corrosion-resistant construction.

Write for full information and prices.
ASK ABOUT NEW EXECUTIVE-TYPE CRADLE PHONE.
Built and Guaranteed by
THE WHEELER INSULATED WIRE CO., INC.
Division of The Sperry Corporation
1108 EAST AURORA STREET • WATERBURY 20, CONNECTICUT
SWH53A

For more details circle NED-904 H3 on enclosed inquiry slip

SPEED LOAD HANDLING
for Truck, Shop or Machine

UNIT *utility* HOIST

Hydraulically operated Unit Utility Hoists can speed and ease handling of 1000 to 2000 lb. loads around your trucks, shop or machines, and the hoist itself can be switched from the truck, floor or machine mount in seconds. Three lifting points and boom extension give a wide working range. Hoist swings 360° on truck and locks securely in traveling position. Many uses in every plant.

Write today for latest information

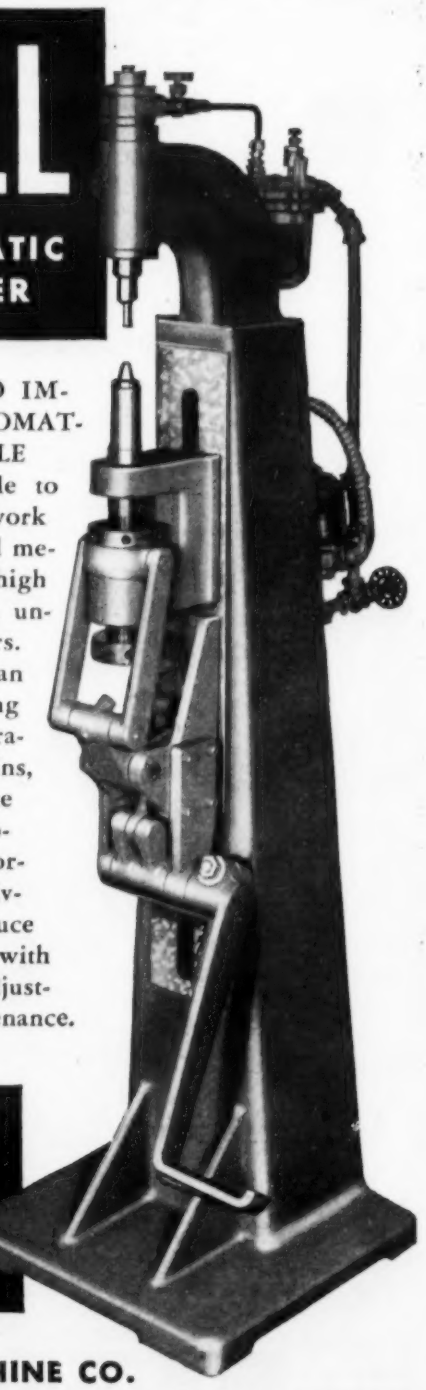
UNIT MFG CO.
1223 Harmon Place
Minneapolis 3, Minnesota

For more details circle NED-905 H3 on enclosed inquiry slip

Delicate Riveting Jobs

CAN BE PERFORMED RAPIDLY AND UNIFORMLY BY PEINING WITH THE

HILL
PNEUMATIC
RIVETER



CONTROLLED IMPACT and AUTOMATIC TIME CYCLE make it possible to duplicate the work of highly skilled mechanics — at high speed and with unskilled operators. Perfect heads can be formed on long slender rivets, fragile fulcrum pins, and other delicate parts without upsetting or distortion. The Hill Riveter will produce uniform work with out constant adjustment and maintenance.

LET US RIVET SAMPLES OF YOUR PARTS
— NO OBLIGATION

HILL MACHINE CO.
1309 EDDY AVENUE, ROCKFORD, ILLINOIS

For more details circle NED-906 H3 on enclosed inquiry slip

D. O. James
Established 1888

Continuous-tooth
HERRINGBONE GEAR SPEED REDUCERS
The Gear With the Backbone

The operating efficiency and dependability of these reducers is continuous testimony to their design and inbuilt qualities of manufacture. They are made in single, double and triple reductions — come in many sizes and in a wide ratio and horsepower range.

SEND FOR CATALOG 40-C

D. O. JAMES GEAR MANUFACTURING CO.
1140 WEST MONROE STREET • CHICAGO 7, ILLINOIS

For more details circle NED-907 H3 on enclosed inquiry slip

Safety Lesson No. 1

"MISSING LINKS"*
Repair Chains Better

Do away with danger of opening up under heavy load by specifying Laughlin "Missing Links".

Pressure fitting of matched halves with special dies insures perfect fit, eliminates tendency of loose-fitting links to shear.

Links, not rivets, carry the load. Interlocking lugs grip firmer, bear the weight. Ordinary round lugs fitted into round holes don't have holding power.

"Missing Links" are also supplied in an exclusive pear shaped design in sizes for 3/8" to 1 1/8" chain. Free Catalog No. 150 lists full line.

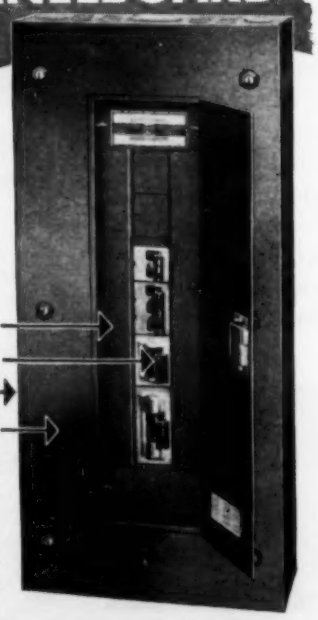
For Safety's Sake . . . Say LAUGHLIN

THE THOMAS LAUGHLIN CO.
*T. M. REG. 819 Fore Street, Portland, Maine

Buy from your local distributor

For more details circle NED-908 H3 on enclosed inquiry slip

SQUARE D's
MHP DISTRIBUTION PANELBOARD



So easy to order and stock. "Off-the-shelf" delivery of packaged components!

INTERIOR "PLUG-IN" BREAKERS
BOX
TRIM

for 240 Volt, 3 Phase, 3 or 4 wire power systems.

Write Square D Company, 6060 Rivard St., Detroit 11, Mich., for descriptive bulletin

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

For more details circle NED-909 H3 on enclosed inquiry slip

MACHINE SET-UP KIT
for table-equipped machine tools

For milling machines, jig borers, drill presses and other similar machine tools, this set-up kit is designed to save time by keeping all necessary items handy at the individual machine. It contains 24 studs; four extension nut couplers; four flange nuts; four T-slot nuts and four strap clamps with stud diameters available in 3/8, 1/2, 5/8 and 3/4-in. with three T-slot nut sizes available for each stud diameter. It is packaged in a heavy gage steel holder with baked enamel finish designed either to hang on the wall or be set on a table close to the machine. Made by **Jergens Tool Specialty Co.**, Dept. NED, 712 E. 163rd St., Cleveland 10, O.

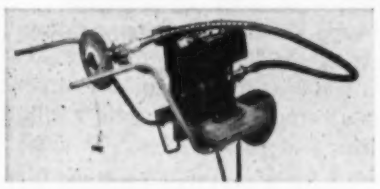
For more details circle NED-910 H3 on enclosed inquiry slip

LEAK DETECTOR
for pressure or vacuum systems

This General Electric leak detector will detect leaks of as little as 1/100 oz of Freon a year. By introducing Freon under pressure it can be used to detect leaks in any closed pressure or vacuum system. It can also be used with carbon tetrachloride or any other of the halogen compounds. The instrument is portable, and can be used on the assembly line or for field service. Applications include testing refrigerator systems, receivers, condensers, coils, oil tanks and tank railroad cars. Distributed by **Harry Alter Co.**, 1726 S. Michigan Ave., Chicago 16, Ill.

For more details circle NED-911 H3 on enclosed inquiry slip

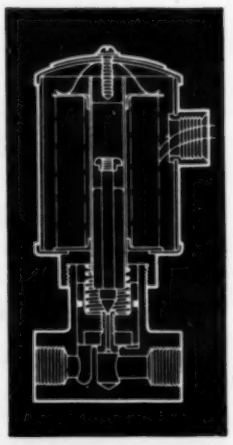
FLEXIBLE SHAFT GRINDER
portable unit is gasoline powered



Mounted on a wheelbarrow type truck, model DGX-7 flexible shaft grinder is powered by a 5-hp gasoline engine. A 7-ft flexible shaft is attached directly to the motor shaft, taking a 3/4-in. capacity arbor style handle spindle for any conventional flexible shaft tool and grinding wheels up to 10 x 1 1/2-in. Right angle handpieces are also available. Engine and drive are mounted on a base which will swivel through 180 degrees, locking in any of five positions. The truck handles are fitted with a quick-acting hand clamp which will lock the shaft handpiece to provide a fixed, bench-type tool. Made by **Franklin Balmar Corp.**, N. A. Strand Div., Dept. N, Woodberry, Baltimore 11, Md.

For more details circle NED-912 H3 on enclosed inquiry slip

SOLENOID VALVE
normally open and closed models operate on 1 to 500 psi lines



Made in 1/2 and 3/4-in. ips sizes, type A series of solenoid valves is designed for use on air, gas, water, oil, steam and other lines with pressures from 1 to 500 psi. Types available include type A, normally closed; type AR, normally open; and type AST, with extra strong Greenclad coil. All are piston pilot operated, packless and have cast Navy M bronze body and stainless steel pilot valve and spring.

Greenclad coils are waterproof, hermetically sealed in a molded thermoplastic casing and are available for various current ratings. Extra strong coils are for continuous duty without relays on higher pressure ranges. High temperature coils with silicone insulation are suitable for operation with temperatures from 250 to 450° F or steam over 15 psi to 150 psi. Made by **J. D. Gould Co.**, 732 E. Washington St., Indianapolis 2, Ind.

For more details circle NED-913 H3 on enclosed inquiry slip

HANDLE DRUMS and BARRELS? you are losing money and time THIS WAY

You can minimize your handling cost by using the Sabin One-Man Barrel truck. Containers up to 800 pounds are easily picked up by running truck up to them, hooking on at top and pulling back on handle. *Third Wheel feature* insures added safety in moving loads. *WRITE FOR BULLETIN NO. 48-A*

CHANGE TO THIS.
SABIN TRUCK

THE SABIN MACHINE CO.
6536 Carnegie Avenue
Cleveland 3, Ohio

For more details circle NED-914 H3 on enclosed inquiry slip

Save DOLLARS — SPEED PRODUCTION with DESTACO TOGGLE CLAMPS

De-Sta-Co Toggle Clamps are extremely flexible in their application and are economically and easily adapted to work-holding fixtures for assembly, welding, bending, machining or other production processes. Smooth, fast, powerful clamping action clamps parts quickly . . . holds them firmly in perfect alignment . . . releases instantly for easy removal and insertion of new workpiece.

De-Sta-Co clamps are engineered for rugged use in production; reamed bearing holes insure precision fit, long life and sensitive operation . . . offsets in handles and links relieve friction . . . made with cold drawn bars, and forged portable clamp parts. Accessories for adapting clamps to specific applications are available.

Write today for name of nearest distributor and your copy of the De-Sta-Co catalog which describes over 40 fixture and portable models with positive holding pressures up to 4000 pounds.

DESTACO DETROIT STAMPING COMPANY
360 MIDLAND AVE. • DETROIT 3, MICH.

For more details circle NED-915 H3 on enclosed inquiry slip

New by METZGAR

1. Safety Guard Bed protects personnel, conveys small packages and flat parts.
2. Live roller bed easily removable for cleaning or to convert to belt conveyor.
3. Drive controlled by shimming between beds 2 & 3 to more easily hold back load without cutting power.

STANDARD 11 1/2", 15", 18", 24" WIDTHS
ANY LENGTH
220-440 Volt 60 Cycle 3 phase motor

WRITE FOR DETAILS

METZGAR CO.
MFGRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES & REEL DOLLIES
METZGAR CONVEYORS
416 Douglas, N. W.
GRAND RAPIDS 4, MICH.

For more details circle NED-916 H3 on enclosed inquiry slip

INVISIBLE STRENGTH

Above is a picture of glass so tough that a ½-lb. steel ball, dropped 10 feet, will bounce right off. It can carry far more load, resist greater thermal shock than ordinary glass. Yet you can see through it just as clearly. Think of the places you can use *Tuf-flex** Tempered Plate Glass in your product or production process. Order *Tuf-flex* from your nearby L·O·F Distributor. Write today for your free *Tuf-flex* booklet (TF-8). Libbey·Owens·Ford Glass Company, 9383 Nicholas Building, Toledo 3, Ohio. *®

LIBBEY · OWENS · FORD GLASS COMPANY

For more details circle NED-917 H3 on enclosed inquiry slip

eye-opener

JOHNSON Rotary Pressure JOINTS

The Johnson Joint has solved many design and production problems as nothing else can. And the Type L, shown above, is helping to fit it into more applications all the time. It has lugs cast on body to permit simple rod support, an arrangement that both simplifies installation and assures proper alignment. Completely packless, self-lubricating and self-adjusting, the Type L Johnson Joint is used on calenders, dryers, mills, etc. — wherever steam or liquids must be admitted to rotating machine parts.

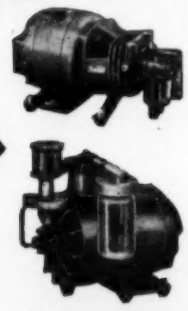
Write for new catalog

The Johnson Corporation
812 Wood St., Three Rivers, Mich.

For more details circle NED-918 H3 on enclosed inquiry slip

two handy packages -- these GAST rotary-vane INTEGRAL-MOTOR AIR PUMPS

Standard Model 0210, ¼ H.P., 1.3 C.F.M. to 25 P.S.I. or 27" vacuum. Oil-less Model, to 10 P.S.I. or 15" vacuum.



Model 0320, ⅓ H.P., 2.5 C.F.M., to 25 P.S.I. or 28" vacuum.

You can solve many an air-pump requirement—vacuum or pressure—with one of these "handy packages." For Gast *integral-motor* Air Pumps are widely used as original equipment by engineers who require smooth, dependable performance in a compact, space-saving unit.

The smaller Model 0210, a highly popular unit, supplies vacuum for engraver's printing frames, feeding devices, laboratory use, etc., in either lubricated or oil-less models.

For vacuum to 28" in low volume applications, Model 0320 is used for production line testing for leaks, for punch press feeding devices, etc. There are scores of uses for these "packaged" integral-motor pumps.

see our catalog in S PRODUCT DESIGN FILE or write for copy

Write for Catalog and Application-Ideas Booklet!

Original Equipment Manufacturers for Over 25 Years

GAST ROTARY AIR MOTORS · COMPRESSORS · VACUUM PUMPS (TO THREE H.P.) (TO 30 LBS.) (TO 28 INCHES)
GAST MANUFACTURING CORP., 115 Hinkley St., Benton Harbor, Mich.

For more details circle NED-919 H3 on enclosed inquiry slip

ELAPSED TIME RECORDERS
automatic dating now featured

Automatic dating is now a standard feature of all industrial model Calculagraphs. This eliminates need for hand dating cards and removes the possibility of clerical error. Instruments find industrial application in recording accurate, automatically computed job and operation times, and they print starting time, finishing time, total elapsed time and date. Elapsed time is shown in hours and minutes, and standard periods can be automatically deducted if desired. In addition to their industrial applications, units can also be of use in parking lots and garages and amusement centers. Made by **Calculagraph Co.**, Sussex St., Harrison, N. J.

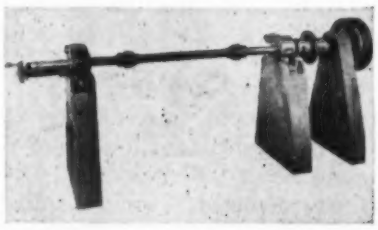
For more details circle NED-920 H3 on enclosed inquiry slip

ROTATING ATTACHMENT
uses various fork truck devices

Designed for use on Elwell - Parker hydraulic fork trucks, this hydraulically operated load revolving mechanism permits 360-degree rotation of fork truck attachments with which it is used. Forks, roll paper clamps, up-enders and other load supporting devices can be handled with it. Power is supplied by a hydraulic motor. Entire unit can be removed from the elevator plate should the truck be needed for operations not requiring the rotating feature. Made by **Elwell-Parker Electric Co.**, 4502 St. Clair Ave., Cleveland 3, O.

For more details circle NED-921 H3 on enclosed inquiry slip

UNWINDING STAND
incorporates air actuated brake



An air actuated brake for regulating tension of unwinding webs, such as paper, board, cellophane, foil or film, is designed into the Dilts model UA single position unwind stand. Also featured are quick-acting split latch type sleeve bearings and running adjustments for side lay and squaring. Variety of roll diameters and widths for diversified applications is available. Made by **Black-Clawson Co.**, Dilts Machine Works Div., N. First St., Fulton, N. Y.

For more details circle NED-922 H3 on enclosed inquiry slip

with the perfected, automatic
NATIONAL HAND DRYER
—dries hands completely dry in 20 seconds!

Eliminates the constantly mounting cost of paper towels or towel service—no storage problem, no filling of cabinets, no removal, cleaning and disposal time or attention. No time when clean, sanitary drying service is not available.

Do you really know how much your wash room service is costing you?

One fast-acting, tamper-proof NATIONAL HAND DRYER serves 1½ to 2 wash basins, pays for its cost from actual cash outlays in 12 to 18 months, gives quick, soothing drying service at the touch of a button, and is rapidly winning preference in hand drying because of its fast pleasing action.

Let us show you an actual example of continuous cost savings with NATIONAL DRYERS over towels. Now Available for industrial users—220-volt single phase models.

National Dryer Sales Corporation
Dept. NE3-8, 616 West Adams St., Chicago 6

Without obligation, send complete information on National Hand Dryers and example of cost savings.
( ) Also send inforrmation on National Hair Dryers.

Name .....
Address .....
City ..... Zone ..... State .....

For more details circle NED-923 H3 on enclosed inquiry slip

NEW AUTOSET self-setting hold-down clamps for presses and machine tools

GUARANTEED NOT TO BREAK!

No packing required—has 3 inter-related surfaces. Tools gripped, can't slip. Malleable castings. Washer attached, preventing misplacement. All sizes in stock.

EXACTO INDUSTRIES, INC.
150 So. Doheny Drive, Beverly Hills, Calif.
Phone BRadshaw 2-5321

Distributors for Northwest Hose Clamps

• • •

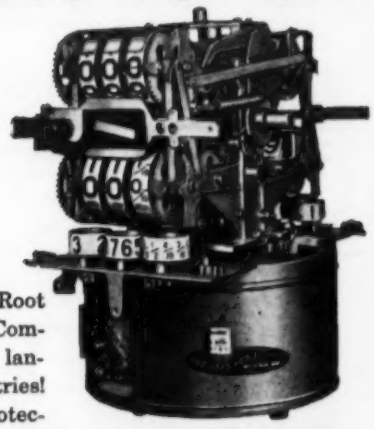
Since 1943—Manufacturers of aircraft clips and clamps conforming to latest AN specifications. Suppliers to airframe manufacturers in the U. S. and Canada: Air Force and Navy. Representatives in principal cities.

For more details circle NED-924 H3 on enclosed inquiry slip

It Computes the Cost of Gasoline Pumped... in All of the World's Currencies

Added Evidence that

Everyone Can Count on VEEDER-ROOT



Yes, this Veeder-Root Gasoline Pump Computer speaks the languages of 144 countries! It's the modern protection given you by gasoline pump manufacturers, gasoline refiners and their service-station outlets *... to make sure you get full measure in your tank, and the right change in your pocket* (or you can buy in "even money"). And what's more, it underscores the fact that "Veeder Root Counts Everything on Earth"... electrically, mechanically or manually. What's *your* counting problem?

VEEDER-ROOT INCORPORATED
"The Name That Counts"
HARTFORD 2, CONNECTICUT
Chicago 6, Ill. • New York 19, N. Y. • Greenville, S. C.
Montreal 2, Canada • Dundee, Scotland
Office and Agents in Principal Cities

"Counts Everything on Earth"

For more details circle NED-925 H3 on enclosed inquiry slip

Don't let arching, bridging and clogging bottleneck your production . . . keep materials flowing from bins, hoppers and chutes with SPO air vibrators. These low-cost units deliver powerful hammer-like blows which eliminate jamming of powdered and granular materials.

Exclusive feature of SPO air vibrators is a special corrosion-proof bronze alloy cylinder liner which assures full-power start, high-speed operation, low air consumption and maximum service life. 1222-S1

Write today for Bulletin 50.

SPO INCORPORATED

6475 GRAND DIVISION AVE. • CLEVELAND 25, OHIO

▲ For more details circle NED-933 H3 on enclosed inquiry slip ▲

NEW! FAST! EASY!

PRINT FACSIMILE LABELS DIRECT TO CONTAINERS

Here's the new system that eliminates labels and the old stencil board—ink brush method of addressing and marking shipping containers. With the new Web-O-Print JC-3 hand printer and a Kustom-Kut (die-cut) stencil, you can print both facsimile label and shipping information direct to cartons or boxes *in one operation* . . . at the rate of 40 to 50 cases per minute!

Kustom-Kut stencils are pre-cut to print your label or form. Address and other variable information are typed in . . . stencil is quickly attached to Web-O-Print . . . label and address are then printed on container in a single movement.

Web-O-Printing is a fast, clean one-hand operation. Prints on rough and cylindrical surfaces. Leaves a sharp, compact, fade-proof and waterproof print. Can be easily blocked out for re-shipping.

FREE SAMPLE PRINT Write today for a sample print and information on trial offer. No obligation.

Weber LABEL AND MARKING SYSTEMS
Division of Weber Addressing Machine Co.
Dept. NE-1, Mount Prospect, Ill.

▲ For more details circle NED-934 H3 on enclosed inquiry slip ▲

Let the Houghton Man show you

HOW TO GET GREATER FUEL OIL EFFICIENCY

Send this coupon

E. F. HOUGHTON & CO.
303 W. Lehigh Ave., Philadelphia 33, Pa.

We want to know how "Houghto-Solv" can help make our fuel dollars worth more by increasing the efficiency of the fuel oil we are using.

Name _____
Company _____
Address _____
City _____ Zone _____ State _____

▲ For more details circle NED-935 H3 on enclosed inquiry slip ▲

New Literature & Catalogs

Drafting Boards

Bradford Bailey Co.—Combination drafting boards and parallel rulers in 12 x 13, 15 x 19 and 21 x 25-in. sizes for field, casual and continuous service are featured in 4-page illustrated bulletin. Ruler remains parallel and in position at all times. Pointer measures how far it is moved.

▲ For more details circle NED-936 H3 on enclosed inquiry slip ▲

Electron Tubes

"Tube Picture Book" is title of a 16-page educational primer of photographs, cutaway drawings, and exploded views showing structural details of electron tubes used in various fields. Included are typical glass, metal and miniature types; a subminiature triode; a thyratron; a high-voltage rectifier; power and super-power triodes and television picture tubes. Specially prepared as a visual instruction aid, booklet is available for 25 cents a copy from Radio Corp. of America, Commercial Engineering, RCA Tube Dept., Harrison, N. J.

▲ For more details circle NED-937 H3 on enclosed inquiry slip ▲

Vertical Sand Pumps

Denver Equipment Co.—8-page illustrated bulletin P10-B5 gives operational data and specifications of complete range of vertical centrifugal sand pumps. Units will handle most ¼-in. pulps that will flow by gravity, including frothy pulps, and are not affected by average fluctuations in feed. Capacities range up to approximately 33 dry tons per hour at up to 60 ft discharge heads. Installation data and ordering information are given.

▲ For more details circle NED-938 H3 on enclosed inquiry slip ▲

Gates & Valves

Stephens-Adamson Mfg. Co.—20-page illustrated bulletin 1252 shows complete line of gates and valves for bulk materials handling, including standard and special types. Latter include one unit where two rubber sleeves are twisted shut by a rotating collar, forming a dust and water tight lock, and another for heavy duty applications where an apron belt is rolled away from bin opening. Complete details and dimensions are also shown for slide and quadrant gates and other conventional units.

▲ For more details circle NED-939 H3 on enclosed inquiry slip ▲

Cemented Carbides

Kennametal Inc.—Giving essential technical data on the proprietary grades of cemented carbide, Kennametal and Kentanium, 16-page illustrated manual C-53 combines a complete description of mechanical and physical properties with many photographs showing typical applications. Suggestions for design are included.

▲ For more details circle NED-940 H3 on enclosed inquiry slip ▲

Aluminum Electrical Connections

Kaiser Aluminum & Chemical Sales, Inc.—20-page booklet illustrates in cartoon style practical and proved methods of making good connections with aluminum conductor, especially in service drops and distribution lines. Booklet is designed as an educational and training aid.

▲ For more details circle NED-941 H3 on enclosed inquiry slip ▲

Motor Starters

Allis-Chalmers Mfg. Co.—8-page illustrated bulletin 14B7132A covers size O-3 alternating-current across-the-line motor starters with general purpose, explosion-proof and open enclosures. Manual and magnetic and combination and reversing starters are included, together with push button control stations. All units are equipped with thermal overload protection devices.

▲ For more details circle NED-942 H3 on enclosed inquiry slip ▲

Hydraulic Jet Cleaners

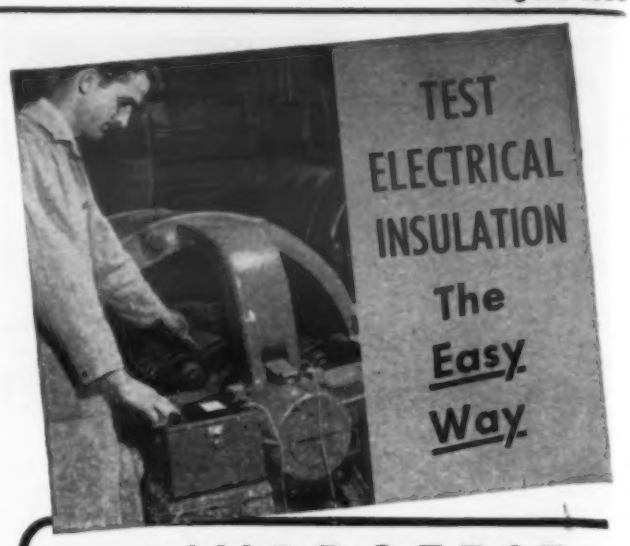
Sellers Injector Corp.—Hydraulic jet cleaners, operated by ordinary steam and cold water lines, are described in 8-page illustrated bulletin 424. This low cost, heavy duty cleaning method is described and applications are discussed.

▲ For more details circle NED-943 H3 on enclosed inquiry slip ▲

Welding Fittings

Bonney Forge & Tool Works—Revised catalog W-3 includes text and illustrations on WeldOlet pipe fittings used in butt and socket welding, and ThredOlets, used for making threaded outlets. The 36-page catalog has data on sizes, weights, prices, installation instructions and a technical section covering design, engineering and material specifications.

▲ For more details circle NED-944 H3 on enclosed inquiry slip ▲



with VIBROTEST

TESTING your motors and other electrical equipment with Vibrotest not only saves hard manual labor; but also assures you of accurate readings at the touch of a button. Vibrotests are fully portable, rugged, and thoroughly dependable. Numerous Vibrotest Models to choose from—many with volts and ohms ranges in addition to megohm ranges. Act now to get easier, better, faster insulation resistance testing.

Write for Bulletin 2A

- Push-button operation
- No Cranking
- No Leveling
- Instant Action

ASSOCIATED RESEARCH, Incorporated
Precision Instruments • Since 1936

3786 West Belmont Avenue, Chicago 18, Illinois

▲ For more details circle NED-945 H3 on enclosed inquiry slip ▲

HOW TO WELD CONTACTS

WELDPOWER*

Cuts Rejects
Increases Production
Eliminates Costly, Less Satisfactory Methods

However you now make them, look into the advantages of assembling contacts and relay tips with Raytheon stored energy WELDPOWER. Designed especially for welding light gauge ferrous or non-ferrous metals and dissimilar combinations, WELDPOWER provides the precision control essential for a strong, permanent bond. Because rejects go down as production goes up, WELDPOWER Units quickly pay for themselves in a better product at lower cost.

Investigate the many advantages of joining any small precision part with Raytheon Condenser WELDPOWER. Control units are available in 3 sizes with appropriate WELDPOWER Heads. Send sample parts or write for details. Address Dept. 6270-NE-8

*Reg. U. S. Pat. Off.

RAYTHEON
RAYTHEON MANUFACTURING COMPANY
Excellence in Electronics Equipment Sales Division, Waltham 54, Mass.
DISTRICT OFFICES: Boston • New York • Cleveland • Chicago
New Orleans • Los Angeles (Wilmington) • San Francisco • Seattle
INTERNATIONAL DIVISION, 19 RECTOR STREET, NEW YORK CITY

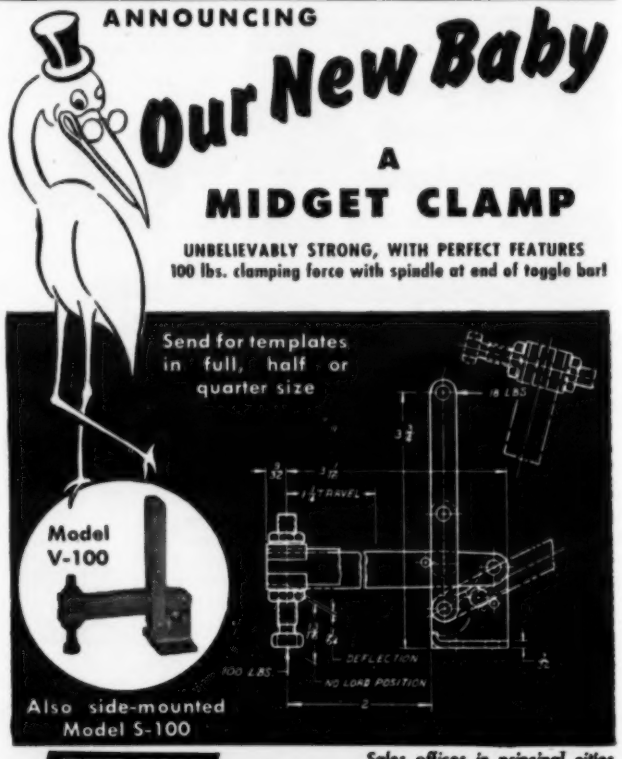
▲ For more details circle NED-946 H3 on enclosed inquiry slip ▲

ANNOUNCING

Our New Baby

A MIDGET CLAMP

UNBELIEVABLY STRONG, WITH PERFECT FEATURES
100 lbs. clamping force with spindle at end of toggle bar!



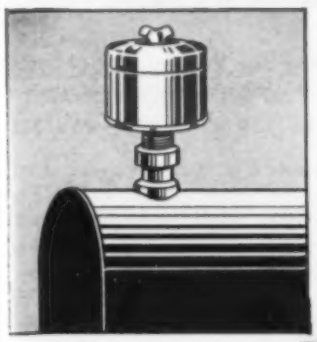
Sales offices in principal cities

KNU-VISE PRODUCTS LAPEER MFG. CO.
3062 DAVISON ROAD • LAPEER, MICHIGAN

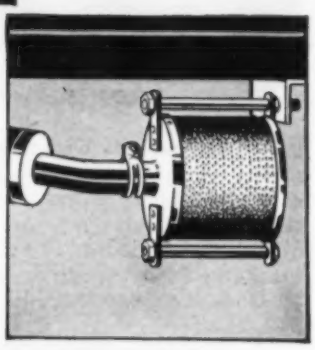
WESTERN DIVISION—422 MAGNOLIA GLENDALE, CALIF.
CANADIAN DIVISION—HIGGINSON ENGR. • HAMILTON, ONT.

▲ For more details circle NED-947 H3 on enclosed inquiry slip ▲

Two AIR-MAZING ways to keep out sparks



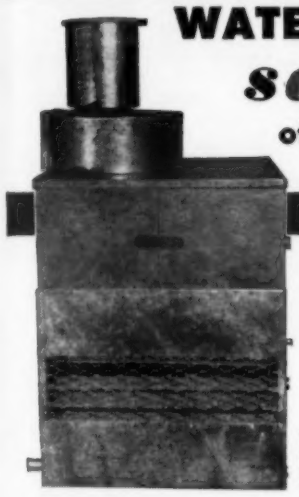
1 USE AIR-MAZE TANK VENT FLAME ARRESTERS for tank vents wherever volatile, inflammable liquids are stored. Wire baffles keep out sparks and flames, prevent dirt from being drawn into tanks. Send for bulletin.



2 USE AIR-MAZE EXHAUST SPARK ARRESTERS for internal combustion engines. Sparks are arrested inside and "dampened" by wire screen media which dissipates heat so rapidly that ignition temperatures cannot be reached outside. Arrester is all metal, non-liquid, cleanable; clamps on exhaust pipe. Send for bulletin.

AIR-MAZE CORPORATION
25001 Miles Rd. • Cleveland 28, Ohio
For more details circle NED-948 H3 on enclosed inquiry slip

WATER PROBLEM? save 95% of your cooling water



with Acme towers

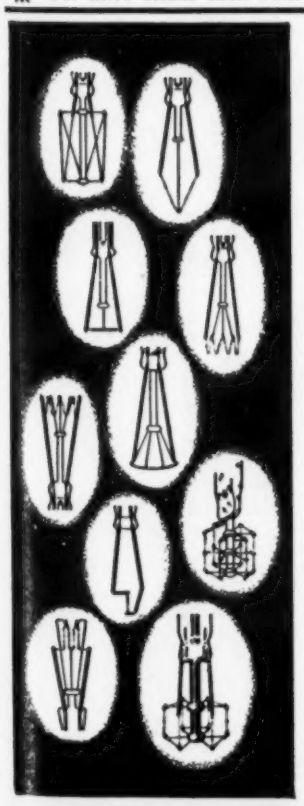
Whether your water supply problem is for one molding machine or for the air conditioning of the entire plant Acme has a cooling tower tailored to fit your needs. All Acme Towers are engineered and designed for the basic purpose of reducing by more than 95% the amount of water used without a tower.

Acme JCT models are small, compact and highly efficient. They are galvanized for indoor or outdoor operation. Capacities range from 3 to 12 tons.

For the bigger jobs you'll need Acme ACT models with capacities ranging from 8 to 60 tons.

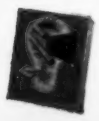
Write for bulletin giving data on Acme's complete line of Cooling Towers.

ACME INDUSTRIES, INC.
JACKSON, MICHIGAN
Continuously serving the Refrigeration and Air Conditioning Industry since 1919
For more details circle NED-949 H3 on enclosed inquiry slip



Filamentary Facts about CHAMPION LAMPS

A 60 watt filament starts as a piece of tungsten wire 21 inches long, dia. 2/3rds the thickness of this page. Coiled 1200 times it becomes 3.4", coiled again, only ⅝" long. Working with wire so fine as to be almost invisible to tolerances measured in millionths, Champion experts produce filaments that cannot be surpassed in performance. Champion produces Lamps for industry that provide unsurpassed service and value. Get in touch with the Champion Lamp distributor near you for intelligent cooperation on your lighting needs.



New booklet, CHAMPION QUALITY ® contains the interesting story on Champion Lamps for industry. Write for it.

CHAMPION LAMP WORKS
Lynn, Massachusetts
A DIVISION OF CONSOLIDATED ELECTRIC LAMP CO.

For more details circle NED-950 H3 on enclosed inquiry slip

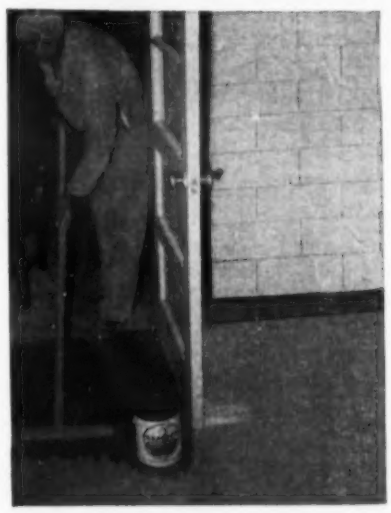
New Processes & Materials

FRICTIONPROOF ALLOY is nonmelting and cool operating

Cop-Sil-Loy, a compound making use of copper and lead alloys, reduces losses due to wear and tear on friction surfaces of many types of machines. It does not melt at temperatures up to 1250° F and sustains friction up to 900° F. Besides being able to carry heat away rapidly, it lubricates as well as lead and does not deteriorate. Compound fills in pits and pores in the drum and lining surfaces of the braking portion of the machine so that the total contact area is increased. Original development was as a friction stabilizer to prevent fading and loss of friction present in regular brake linings. Other uses are on overhead cranes, forging hammers, punch presses, friction drive units, V-belt sheaves and conveyor belt systems. Made by **Cop-Sil-Loy Inc.**, Dept. A, Hollywood, Calif.

For more details circle NED-951 H3 on enclosed inquiry slip

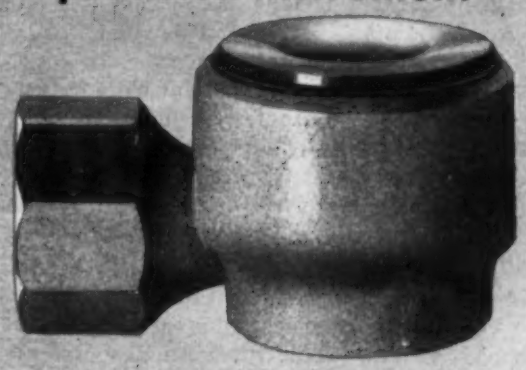
WATERPROOFING PAINT rubber type in many colors



Moisture is sealed out of walls and other surfaces by waterproofing quality of Paracrete, a rubber paint designed for use on concrete, metal, cinder block, brick, masonry, asbestos shingles, etc. It is easily washed and is unaffected by strong alkali soaps, petroleum oils, greases or wide temperature variations. Paint is suitable for alkaline surfaces as it does not saponify. Hot mortar joints cannot burn through coating, and brick walls can be painted as soon as dry. Where nonskid protection or extra wearing quality is desired, special Carborundum or silicon granules, or stainless steel flake can be added to the product. It is available in standard colors. Made by **Foundry Rubber Inc.**, 6101 River Rd., Washington 16, D. C.

For more details circle NED-952 H3 on enclosed inquiry slip

precision instrument



for improved production

SPRAY NOZZLES alone can often materially control the costs and efficiency of a process or operation involving spraying. All Spraying Systems Spray Nozzles are precision instruments . . . with design based on years of research and experience in specialized hydraulics . . . and with manufacture maintained at precision tolerances. For proof let us give you the facts about Spraying Systems Spray Nozzles . . . the preferred nozzles today among equipment builders and engineering firms everywhere in industry.

WRITE FOR your copies of General Catalog No. 22 and Pneumatic Atomizing Nozzle Catalog No. 23. America's most complete spray nozzle reference manuals. Data Sheets supplied covering specialized applications.

SPRAYING SYSTEMS CO.
3211 Randolph Street • Bellwood, Illinois

For more details circle NED-953 H3 on enclosed inquiry slip

"Get Out From Under-"

Federal "J" Siren cuts through high noise levels to save lives!

You never know when a cable might break or a load might shift. Unless warned, workers on the craneway face swift falling death from above.

Shouting won't do it, nor will an ordinary signal. You need a powerful, distinctively high-pitched Federal "J" siren . . . a siren that overcomes intensely high noise levels. The Federal "J" is a heavy duty siren specifically designed for electric cranes and operating long periods of time repeated 24 hours a day. Where heavy duty, high-frequency of operation is necessary — where distinctive, penetrating sound protection can save lives — install a Federal "J" siren.

Write now for Industrial Sirens Bulletin No. 111

FEDERAL ENTERPRISES, INC.
Formerly: Federal Electric Company, Inc.
8711 South State Street • Chicago 19, Illinois
For more details circle NED-954 H3 on enclosed inquiry slip

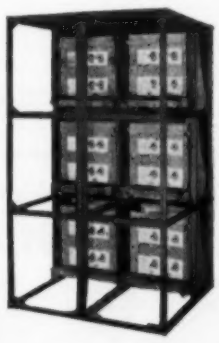
Build

all these things and more, with versatile

UNISTRUT®
METAL FRAMING

UNISTRUT framing and pipe clamps support heavy banks of conduit leading to motors in plant of large pharmaceutical manufacturer.

Right: framework of UNISTRUT channel and fittings support switch gear in typical cubicle installation.



Left: load center built with UNISTRUT channel and fittings. Framing system's adjustable feature permits quick location of gear to spot desired.

Rack conduit, cable and pipe—Frame power load centers—Mount switches, meters and panelboards

With the UNISTRUT system you save engineering detailing time and eliminate the need for trained erection crews. No drilling, no welding, no special tools or equipment—all you need is a hacksaw and a wrench.

Write today—

for New FREE 84-page Pocket Catalog No. 800—for the MAN ON THE JOB!

DEPT. N8

UNISTRUT PRODUCTS COMPANY
1013 W. Washington Blvd.
Chicago 7, Illinois

THE WORLD'S MOST FLEXIBLE ALL-PURPOSE METAL FRAMING

For more details circle NED-955 H3 on enclosed inquiry slip

Best numbers for MODERN FINISHING

KNOW—profit from—the almost unbelievable action of Brightboy's working combination of *cushioned rubber and abrasive.* Far broader applications than other materials and methods.

In One Operation

BURRS • CLEANS
FINISHES • POLISHES

Metals • Plastics • Wood
Glass • Laminated Materials

Ask your dealer or write us for catalog and introductory sample card.

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

BRIGHTBOY INDUSTRIAL DIVISION
Weldon Roberts Rubber Co.
95 No. 13th Street
Newark 7, N. J.
America's Pioneer Manufacturer of Rubber-Bonded Abrasives

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SEAL OF PROVEN PERFORMANCE

Modernair

AIR / FLUID POWER EQUIPMENT

SPECIALISTS

VALVES – CHUCKS – CYLINDERS – SILENCERS – SOLENOIDS
HYDRAULIC PUMPS – COMPRESSORS – PILOTS – AIR CONTROLS
MACHINE FEEDS – CLAMP CYLINDERS – QUICK EXHAUSTS

WRITE FOR CATALOG

STOCKS IN PRINCIPAL CITIES

Modernair CORPORATION
400 PREDA STREET • SAN LEANDRO, CALIFORNIA

▲ For more details circle NED-957 H3 on enclosed inquiry slip ▲

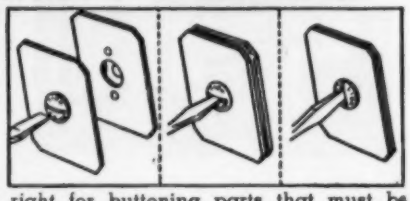
For parts that must be TAKEN OFF . . .

PUT BACK...BUTTONED TIGHT

LION FASTENERS

LOCKS TIGHT WITH A QUARTER TURN

Always at correct tension



Lion Fasteners are *right* for buttoning parts that must be removed repeatedly for inspection, maintenance, or other reasons.

Vibration and shock can't loosen a Lion Fastener. Even an inexperienced service man can't replace it wrong. A quarter turn opens it. Another quarter turn locks it. The tension is *designed into it.*

Lion Fastener Spring Assembly is quickly spot welded or riveted in place. The stud cannot be lost. It is grommeted tight to the sheet. They will button sheets .040 plus or .020 minus over or under standard rating. The misalignment is as much as .156. The one-piece forged stud is tested to 1425 lbs. Write today for demonstration kit and application data.

TYPICAL APPLICATIONS: INSPECTION PLATES • COWLING • ELECTRICAL PANELS • CABINETS • DUCTWORK

FREE DEMONSTRATION KIT

contains sample Lion Fasteners to help you visualize their adaptability to your product. Write on your company letterhead. No obligation.

LION FASTENERS, INC.
600 Main St., Honeoye Falls, N. Y.
In Canada:
A. T. R. Armstrong Co., 50 St. Clair Ave. West, Toronto

▲ For more details circle NED-958 H3 on enclosed inquiry slip ▲

New Literature & Catalogs

Material Handling System

Union Metal Mfg. Co.—Different units in the Work-O-Matic material handling system are described and illustrated with on-the-job photos in 12-page catalog, designated No. 83. Covered are bin boxes and gravity fed hoppers and tiering, storing and dumping with multi-duty boxes and trays. You'll also find end-loading scoops and multi-duty trays in the line.

▲ For more details circle NED-959 H3 on enclosed inquiry slip ▲

Centralized Lubrication

Farval Corp.—20-page illustrated bulletin No. 26 makes liberal use of diagrammatic sketches and illustrations to show operation of the Farval system of centralized lubrication. System features and components are described and various applications are shown. How the system can pay for itself is related.

▲ For more details circle NED-960 H3 on enclosed inquiry slip ▲

Casting, Forging & Rolling Facilities

Hamilton Watch Co.—Facilities for melting and casting 3 to 25-lb ingots of special alloys, forging to bar and rod forms, hot and cold precision rolling of strip, slitting, processing and straightening special alloy wire and heat treating small parts are described in 16-page illustrated booklet. Extremely close process tolerances are maintained to specifications.

▲ For more details circle NED-961 H3 on enclosed inquiry slip ▲

Monorail Applications

American MonoRail Co.—Series of eight single-page illustrated "American MonoRail Engineered Applications" show uses of monorail systems in various types of plants and operations. Applications in enameling plants, tanneries, sugar handling, textile plant, manufacturing plants, car unloading and in rigid frame buildings are included.

▲ For more details circle NED-962 H3 on enclosed inquiry slip ▲

Wool Felt

American Felt Co.—Forty-seven actual reference samples of commercial standard 185-53 wool felt are included in this "catalog." Sixteen types of mechanical roll felts, 18 types of sheet felts and 13 types of roll felts for approval and decorative trades are shown. Catalog conforms to government voluntary standard for the trade, a copy of which is included.

▲ For more details circle NED-963 H3 on enclosed inquiry slip ▲

Fuel Burning Systems

York-Shipley, Inc.—Packaged system for conversion of large boilers to oil or gas firing is subject of 16-page illustrated brochure "Factory-Coordinated Industrial Fuel Burning Systems." It relates how the system is engineered, planned and processed; shows its components and tells of the benefits to be derived.

▲ For more details circle NED-964 H3 on enclosed inquiry slip ▲

Copper Corrosion Resistance Data

American Brass Co.—The results of 27 years of laboratory research and field study are presented in 28-page illustrated booklet "Corrosion Resistance of Copper and Copper Alloys." Tabulated are relative corrosion resistance of principal types of copper and copper base alloys when in contact with 183 different corroding agents. Information includes data on stress-corrosion cracking, galvanic corrosion, and fresh and salt water corrosion.

▲ For more details circle NED-965 H3 on enclosed inquiry slip ▲

Small Lot Stampings

"Metal Stampings In Small Lots" is the title of 20-page illustrated bulletin of interest to engineers and designers. It shows how precision die-cut stampings are made by a patented process by detailed explanation of representative samples. Typical basic designs are priced and machines, dies and tooling techniques described. Request on company letterhead from Dayton Rogers Mfg. Co., 2822 Thirteenth Ave. S., Minneapolis 7, Minn.

▲ For more details circle NED-966 H3 on enclosed inquiry slip ▲

Hose Couplings

Hose Accessories Co.—Safety hose couplings are subject of an 8-page illustrated booklet called "Dangers Under Pressure". This gives an outline of the various cares which should be employed when working with air, gas and steam hoses, and goes on to provide construction details and other information on various safety-type couplings. "Do's and Don'ts" on fitting couplings are included.

▲ For more details circle NED-967 H3 on enclosed inquiry slip ▲

AIR-COOLED POWER CIRCUIT TRANSFORMER

Steps Down High Voltage

Universal Voltage Ratio Design Provides 3 Combinations—
460/230—230/115—460/115

Modern, efficient power distribution practice calls for high voltage main circuits stepped down to low voltage where needed for lighting, control equipment, small tools, etc. The Jefferson line of Power Circuit Transformers is particularly advantageous for these reasons: (1) Transformers are of the universal voltage ratio design making it possible to meet nearly every requirement with a minimum number of transformers in stock. (2) These transformers are of the small compact "Dry Type" needing no special vaults. In addition, these transformers can be mounted on walls, posts, or directly on machinery with sturdy universal mounting brackets. Stock capacities 50 to 15,000 V.A. Approved by Underwriters' Laboratories, Inc.

Bulletin 501-15 mailed on request to manufacturer—JEFFERSON ELECTRIC COMPANY, Bellwood, Illinois.
Advt.

▲ For more details circle NED-968 H3 on enclosed inquiry slip ▲

INCREDIBLE SPEED...

World's only wrench to ratchet fittings on tubing, pipe, conduit, long studs

ADVERTISED IN LIFE

TAC OPEN END RATCHET WRENCH

CUTS TIME: Open end head-and-socket slips around tubing and down on fitting, then ratchets. Actually *5 TIMES FASTER* than an end wrench!

CUTS ACCIDENTS: because TAC can't slip off the work and skin up knuckles.

CUTS COST: on material: snugs down on fittings, can't "bark" even softest brass.

REDUCES INVENTORY OF HAND TOOLS: one wrench supplants many conventional tools.

"BORROW" ONE... we lend it FREE!

Rated companies may request on letterhead a sample handle, head and socket on memo billing—returnable for full credit. PROVE FOR YOURSELF ITS AMAZING QUALITIES!

Send for New Catalog

TUBING APPLIANCE COMPANY
10321 ANZA AVENUE, LOS ANGELES 45, CALIFORNIA Dept. 15

▲ For more details circle NED-969 H3 on enclosed inquiry slip ▲

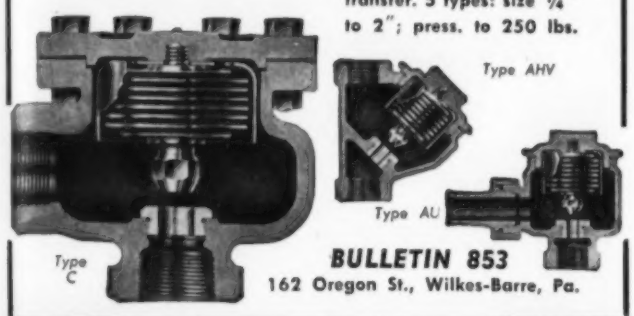
91-28 Van Wyck Expressway • Jamaica 2, N. Y.

▲ For more details circle NED-970 H3 on enclosed inquiry slip ▲

Nicholson Steam Traps

CUT HEAT CYCLE from 45 to 27 min.

"One of the best savings we've made in some time", stated the plant engineer of a large mid-west processing plant after Nicholson thermostatic steam traps replaced mechanical units, cutting average heating cycle of important equipment 40%. Credit is given the higher, more even temperatures Nicholson traps effect. 2 to 6 times average drainage capacity. See why leading plants are increasingly standardizing on Nicholsons for faster heat transfer. 5 types: size ¼" to 2"; press. to 250 lbs.



BULLETIN 853
162 Oregon St., Wilkes-Barre, Pa.

W. H. NICHOLSON & CO.
TRAPS · VALVES · FLOATS

For more details circle NED-971 H3 on enclosed inquiry slip

GRIES DIE CAST GEARS & PINIONS ARE BIG NEWS!

DIE CAST IN ONE PIECE!

Gries eliminates costly manufacturing and assembly of 2 to 4 separate parts . . . and the savings are all yours! Independent tests prove zinc alloy gears wear well, as they are to some degree self-lubricating. Integral one-piece assemblies can be made with shafts as well as center holes; ALL parts are produced to individual specifications. Gears available up to 1 5/16" outside diameter by 1/16" face width; wider faces as diameter decreases. Many gears, pinions, and combinations can be furnished without tooling charges from stock dies. There is a nominal charge for extra close precision requirements, and special designs.

Write TODAY for information about Gries standard components. Send specifications for prompt estimates.

America's Foremost Producer of Tiny Zinc Die Castings

GRIES REPRODUCER CORP.
143 Beechwood Ave., New Rochelle, N. Y. • NEw Rochelle 3-8600

For more details circle NED-972 H3 on enclosed inquiry slip

PERFECT PERFORMANCE-FASTER!

Clauss Electronics Snips Spring To The Job! Developed in close cooperation with electronics workers . . . Sharp points for accurate, minute work.

Clauss
FINE CUTLERY SINCE 1877

HOT HAMMER-FORGED
ELECTRONICS SCISSORS & SNIPS

Set New Cost and Time Cutting Records!

Clauss Electronics Scissors Cut Filament Quickly, With Watchmaker Precision. Available with blades plain . . . or with one blade finely saw-toothed to prevent slippage.

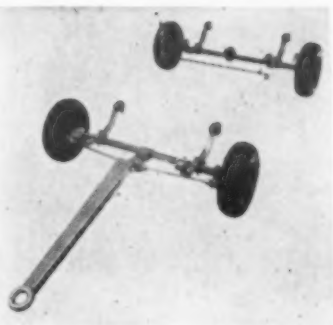
There are Clauss Shears, Scissors and Snips for every industrial cutting need . . . Tough cutlery steel Shears that last longer and hold their adjustment, without becoming loose and unmanageable . . . Tools designed properly for each job, with correct balance, and comfort in the hand.

THE HENKEL-CLAUSS CO.
FREMONT, OHIO
NEW YORK OFFICE
1107 BROADWAY

Write or Wire for information

For more details circle NED-973 H3 on enclosed inquiry slip

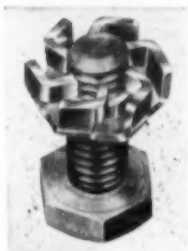
AXLE ASSEMBLIES
two and four-wheel units offered



Lightweight axle assemblies meeting government specification MIL-W-8005 can be furnished in Caravan two-wheel axle type or four-wheel automotive type steering assembly mounted with parking brake and spring assembly. Latter type consists of a 1¾-in. square front assembly and 1¾-in. square rear axle assembly. Hubs, wheels and 6.00 x 9 industrial tires meet specifications. Towing bar has a 3-in. eye. Made by **United Mfg. Co.**, 10 W. Interstate St., Bedford, O.

For more details circle NED-974 H3 on enclosed inquiry slip

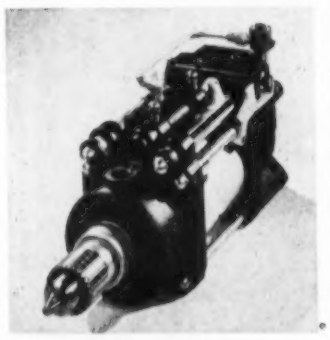
SPIN-DOWN TYPE LOCKNUT
grips after contacting work



Actually finger-free until contact with work is made, this "spin-down" locknut permits fast assembly speed. At point of contact with work a ¼-turn takes up all play. As nut is drawn tight, base flattens to force six buttress-tines securely into bolt thread. Six-sided socket, box or power tool wrench can be used for applying nut. Available in No. 8-10 and ¼-in. sizes in both National Fine and Coarse threads, locknut is unaffected by water, oil or heat up to 550° F. Made by **Thompson-Bremer & Co.**, Dept. G, 520 N. Dearborn St., Chicago 10, Ill.

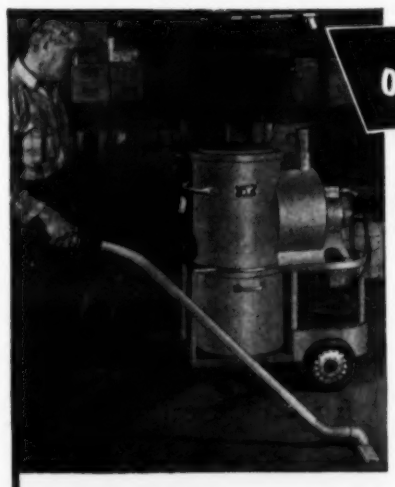
For more details circle NED-975 H3 on enclosed inquiry slip

AUTOMATIC AIR DRILL
automatic or manual cycle control



Powered by compressed air and hydraulically fed, model 14 Holomatic drilling unit for single and multiple feed rate operations is suitable for automatic or manual cycle control. Stroke is adjustable to 4 in. with ample thrust for ½-in. diameter drilling in steel. Positive stop with dwell or instantaneous retract operation, continuous cycling, skip drilling, back feeding and manual jogging are easily achieved. Rotary air motors up to ¾-hp and with speeds of 500 to 15,000 rpm are available. Units can be mounted in horizontal, vertical or angular planes. Made by **Hause Engineering**, Montpelier, O.

For more details circle NED-976 H3 on enclosed inquiry slip



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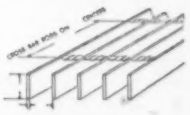

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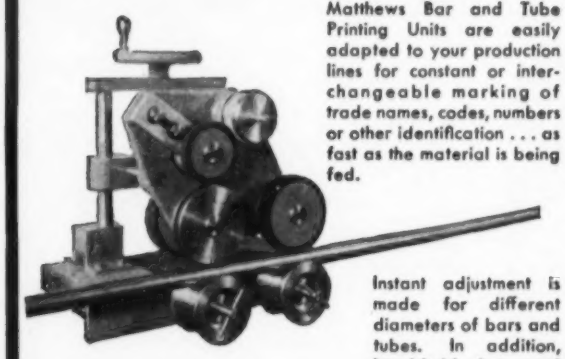

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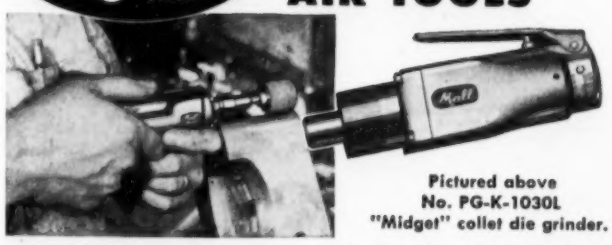

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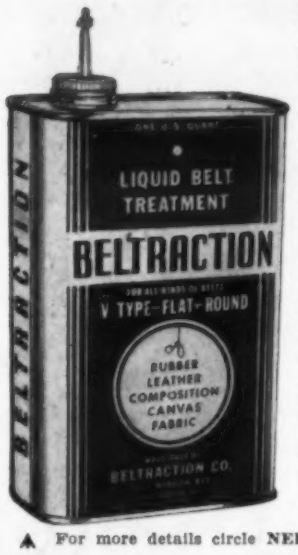

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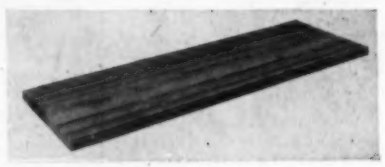

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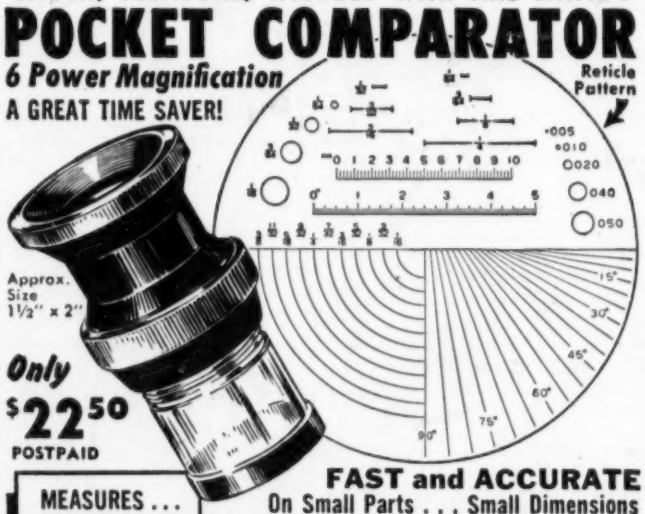

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